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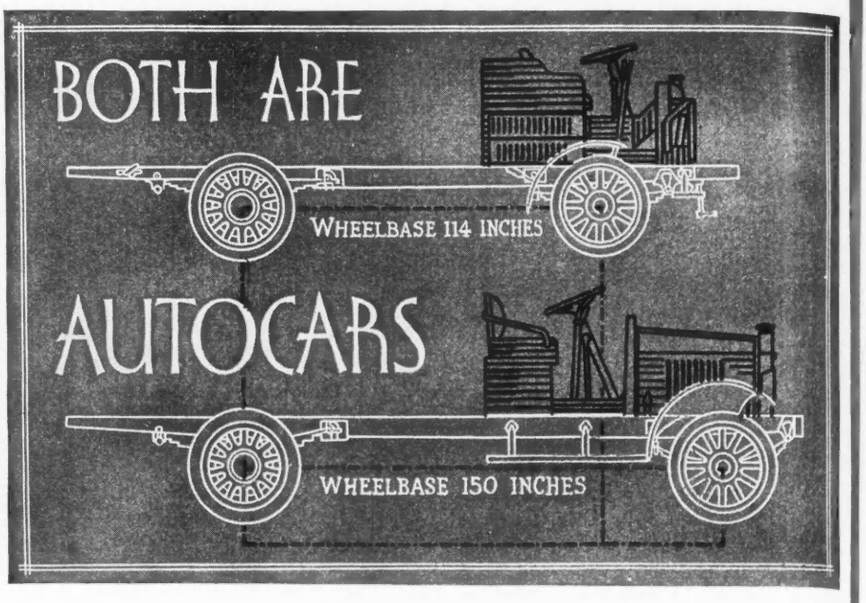

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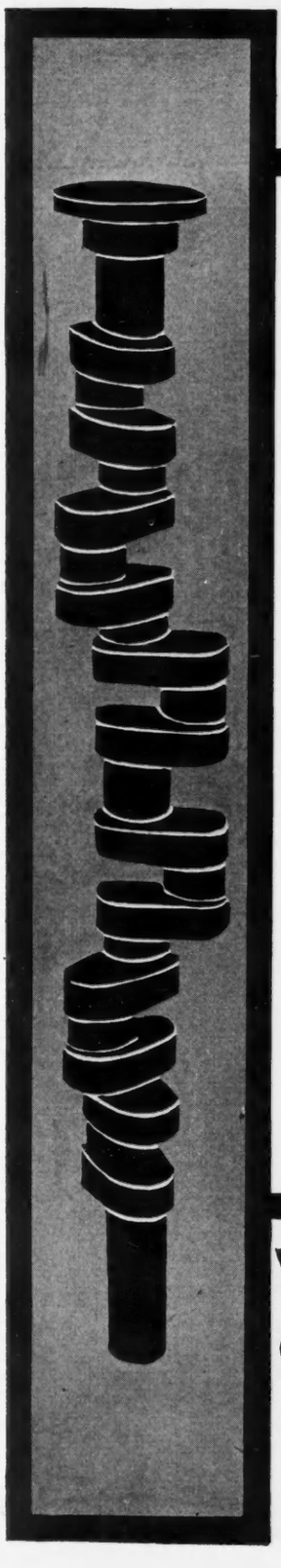
CRANK-SHAFTS



IN WELL KNOWN MOTORS SINCE THE BEGINNING OF THE INDUSTRY

WYMAN GORDON

THE CRANKSHAFT MAKERS

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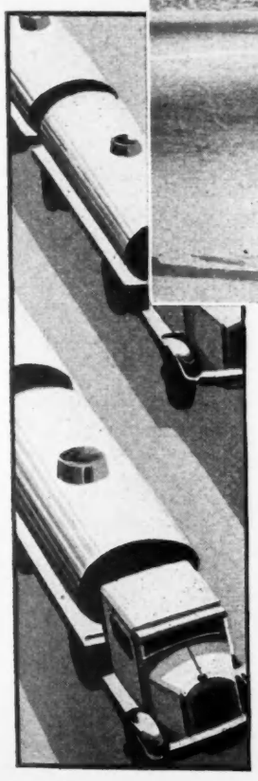
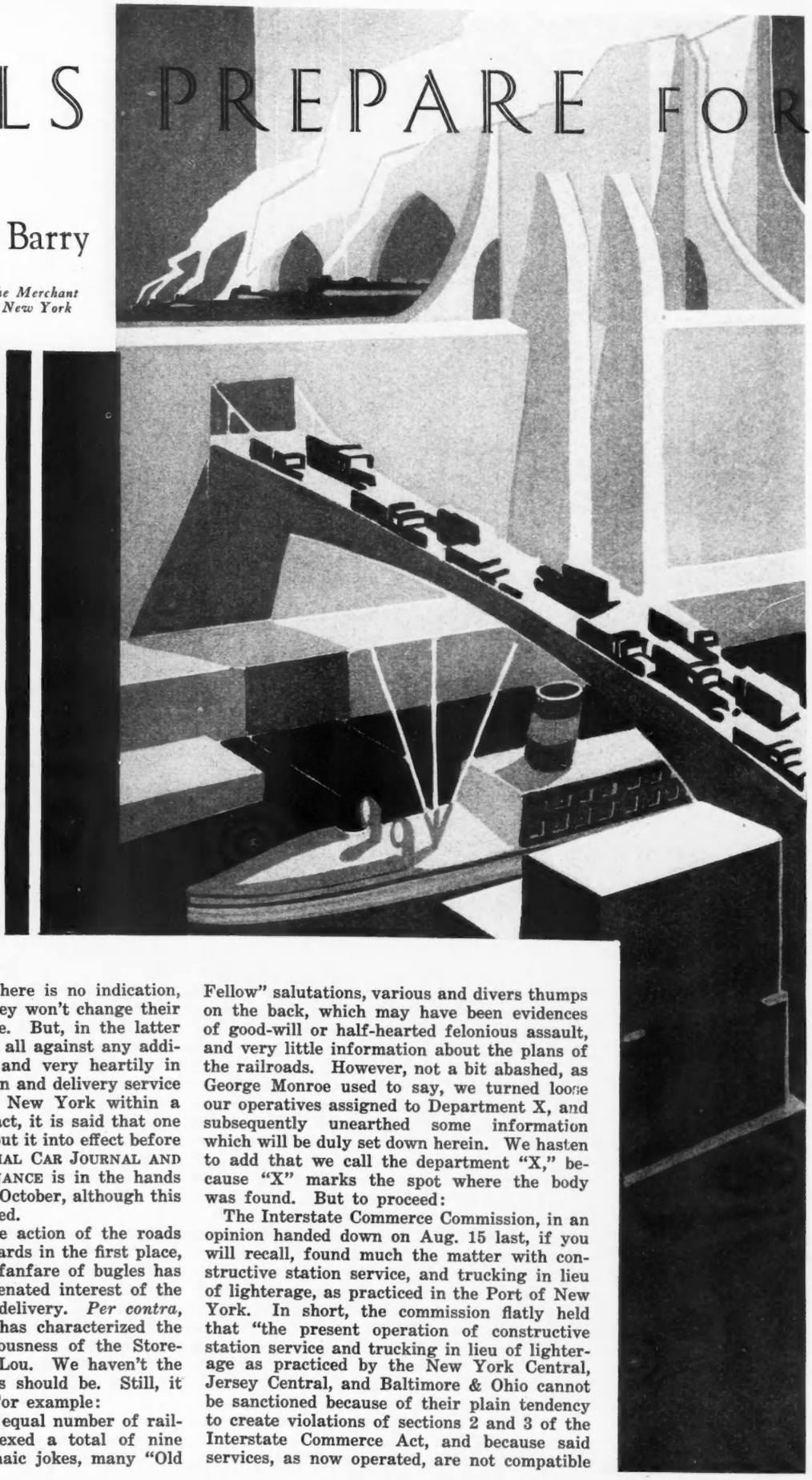


THE advance achieved by the trailer in the last few years has been great. This advance, apparent everywhere to students of transportation, is marked by the acceptance of the trailer idea by the country's leading industries.

The very definite fitting of the trailer, during recent years, into the motor transportation schemes of numerous companies, each with distinct and individual requirements, has progressed until today trailers are called upon daily to perform a vast variety of services.

Glowing as this record has been, still greater developments may be expected in the future. Makers, sellers and operators, who heretofore have thought of trailer application almost wholly from the hauler's standpoint, now perceive that trailers are eminently satisfactory in effecting economies for shippers. The hauler's viewpoint embraces greater loads, lower ton-mile costs, reduced power-plant idle time, etc. The shipper, on the other hand, visualizes the trailer in relation to convenience in loading, consolidation of production with transportation facilities, punctual delivery schedules, less handling, etc. Manifestly, establishment of the ideal set-up, one which is both economical in transport and convenient in operation, demands a proper balancing of all values involved. A discussion devoted to this broader aspect of trailer utility is presented on pages 30 and 31 of this issue.

RAILS PREPARE FOR



By Tom F. Barry

Executive Secretary, The Merchant Truckmen's Bureau of New York

REPRESENTATIVES of railroads entering the Port of New York have emulated Old Mother Hubbard and, going to their respective transportation cupboards, have dragged into the sunlight the heretofore anemic form of Store-Door Delivery.

As this is being written early in September, the best minds of the carriers are assembled in a huddle, giving exclamations of delight over the fact that "There's life in the old girl yet; she's just what the doctor ordered," and "she scarcely looks her age!"

It is not on record that the railroad barons turned to store-door delivery either voluntarily or with any undue enthusiasm. Similarly, there is no indication, at the moment, that they won't change their minds at a future date. But, in the latter instance, the betting is all against any additional mind-changing, and very heartily in favor of direct collection and delivery service becoming a reality in New York within a very short time. In fact, it is said that one railroad may actually put it into effect before this issue of COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE is in the hands of subscribers in early October, although this has been officially denied.

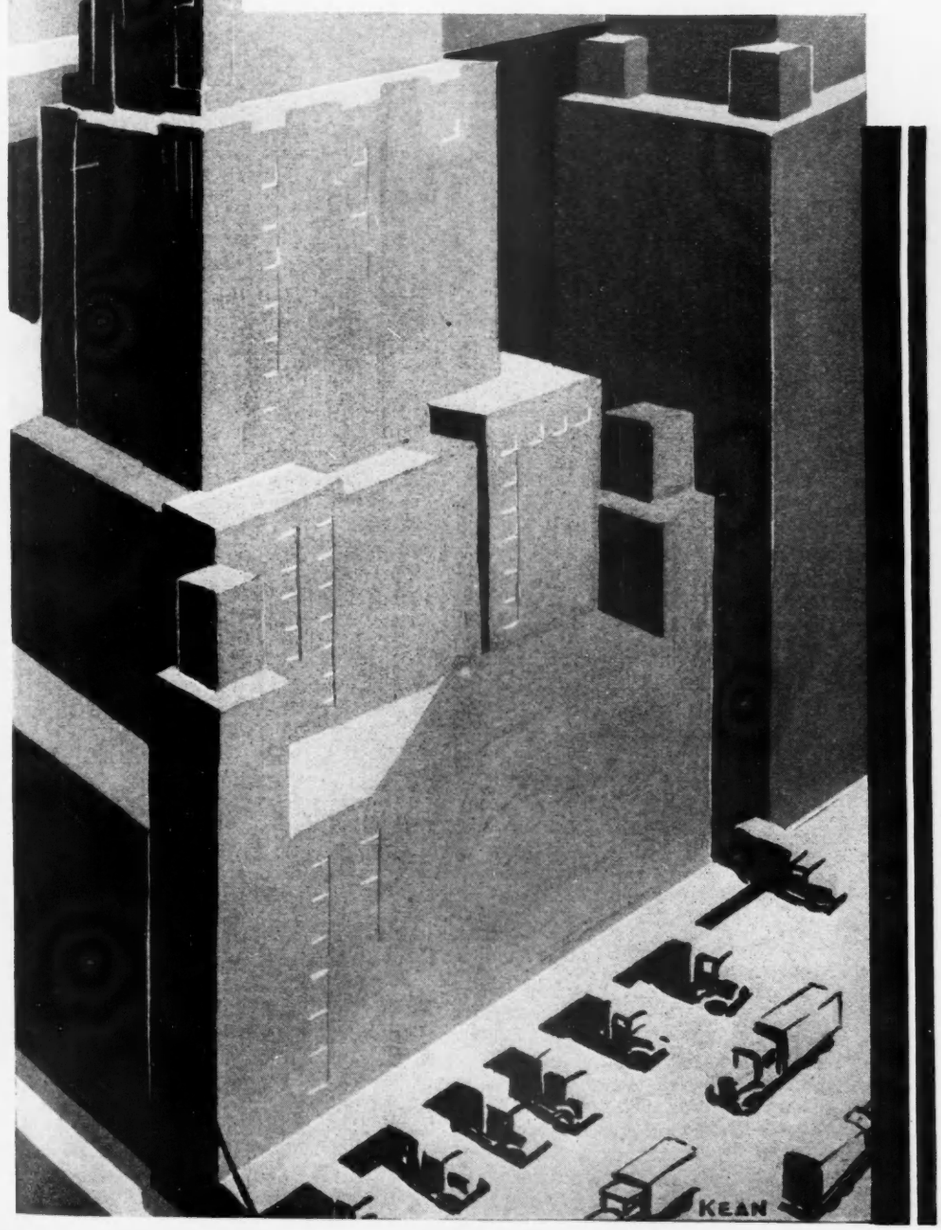
Before discussing the action of the roads in going to their cupboards in the first place, let it be said that no fanfare of bugles has accompanied the rejuvenated interest of the carriers in store-door delivery. *Per contra*, a "hush-hush" policy has characterized the reawakening to consciousness of the Store-Door Lady known as Lou. We haven't the slightest idea why this should be. Still, it has its good points. For example:

In seven calls on an equal number of railroad officials, we annexed a total of nine cigars, some very archaic jokes, many "Old Fellow" salutations, various and divers thumps on the back, which may have been evidences of good-will or half-hearted felonious assault, and very little information about the plans of the railroads. However, not a bit abashed, as George Monroe used to say, we turned loose our operatives assigned to Department X, and subsequently unearthed some information which will be duly set down herein. We hasten to add that we call the department "X," because "X" marks the spot where the body was found. But to proceed:

The Interstate Commerce Commission, in an opinion handed down on Aug. 15 last, if you will recall, found much the matter with constructive station service, and trucking in lieu of lighterage, as practiced in the Port of New York. In short, the commission flatly held that "the present operation of constructive station service and trucking in lieu of lighterage as practiced by the New York Central, Jersey Central, and Baltimore & Ohio cannot be sanctioned because of their plain tendency to create violations of sections 2 and 3 of the Interstate Commerce Act, and because said services, as now operated, are not compatible

STORE-DOOR DELIVERY

Committees Work Behind Closed Doors, Carefully Guarding Date When Service Will Become Effective — I. C. C. Decision Hastens Actions



with the provisions of section 15-a of the Act." By the same token, the Commission also found that "the constructive station now maintained by the New York, New Haven & Hartford should be discontinued because it is in violation of section 2 of the act; and the proposal of the New York Central to continue the practice of constructive lighterage on traffic to and from New England, in order to meet the competition of the said constructive station, should also be denied."

That, very obviously, was that, and while the railroads themselves, upon their appearance before the Interstate Commerce Commission, had asked to discontinue the operations in question, it did seem, to one observer at least, they were a little shocked at the Commission's hearty acquiescence to their request. But, if the carriers were shocked, the 88 truckmen in the Port with railroad contracts were positively aghast! They, like the roads, suspected the goose that had laid the golden egg was scheduled for a condition bordering on suspended animation, but a threat always seems a little vague when contrasted with actuality. As a matter of fact, in their case they experienced a very decided loss. On the strength of their railroad contracts, and in anticipation of a continued increase in tonnage handled, many of them purchased much new equipment, far in ex-

cess of what they needed under normal freight movement, *sans* railroad contracts. Then, when the railroads announced that, in conformity with the Commission's decision, constructive station and trucking in lieu of lighterage operations would be suspended on Sept. 25, there was loud weeping, wailing and gnashing of teeth.

In contrast to the reactions of the trucking contractors, were the statements of the non-contractors. They saw, in the Commission's decision, a return to the good times prevailing prior to the constructive station era, when one hauled freight to and from pier stations at juicy cartage rates, with the consignee paying the bill, without benefit of railroad. Further analysis, however, resulted in a number of disturbing thoughts. The thoughts were confirmed by conversations with shippers and consignees. Said shippers and consignees, having grown accustomed to paying but a 2 to 4-cent trucking rate, with the railroads paying the contractors from 6 to 12 cents more, were singularly unwilling now to pay from 8 to 14 cents for hauling from pier stations to store-door. Truckmen who solicited business which had long since fled to the railroad contractors, were described as burglars, to put it mildly, and urged to get a horse and impersonate Jesse James. Trucking contractors who had been amiably hauling for 2 cents a hundredweight, getting the rest from the railroads for trucking in lieu of lighterage, or trucking to a constructive station, were verbally kicked out of the offices of consignees when consignees were informed that, the action of the Commission in marking rail-trucking operations illegal, and halting them as of Sept. 25, would necessitate an increase in rates from 2 cents to 10 cents and beyond. The shippers couldn't understand the change in rates, and still don't understand it. They became very vocal about it and complained to the Merchants Association of New York, the Commission, the Port Authority, the railroads, and everybody else who would lend an attentive ear. The volume of objection grew louder and more strenuous, all of which forced the railroads to sound the clarion call for a meeting of the clan. The meeting was held. Where, we don't know.

Operator No. 6 from Department X reports that a good time was had by all at the meeting. It was declared that one railroad spokesman said that if the carriers went back to pier stations, the roads would be where they were 10 years ago, in that pier stations were inefficient and uneconomical. He also wanted to know where additional pier facilities might be obtained, in that there were not enough piers in New York now to permit of adequate facilities in docking ships of big draught?

Still another speaker said that even though constructive stations had been wiped out, and trucking in lieu of lighterage had gone by the board, there still remained the inland stations operated by the United States Trucking Corp. for the Erie Railroad, and the more recently acquired inland station of the Pennsylvania Railroad. He pointed out further that with these two roads having inland stations, they would have an advantage over other roads, just as the New York Central had a clearly defined advantage over competitors by having railroad tracks on Manhattan Island. It was set forth that should it be the Erie and Pennsylvania cared to "by-pass" these inland stations, or better still, have the freight sketchily checked at the inland stations, without unloading, the trucks might then continue on to customer's door, and the operation would probably be legal, or could be so interpreted by sage and enterprising counsel. Such checking, or by-passing, it was shown, would permit of a cheaper cartage rate than trucking from pier stations, and the cheaper cartage rate to be had by shipping over Erie and Pennsylvania, would result in a form of competition bearing a close resemblance to the competition that the I.C.C. recently branded as "destructive."

According to reports believed authentic, the dialogue continued in this wise far into the night, whereupon someone bethought himself of Madame Store-Door Delivery and her potentialities for becoming an honest woman. It was then that the trek to the cupboard began, although not without some strenuous shrieking and protesting from carrier representatives who have always shuddered and grown quite pale when direct collection and delivery service were mentioned.

The matter of increased liability in the event that store-door became a reality was discussed at length. Next in importance was the subject of how to arrive at adequate rates; rates which, on the first hand, would be fair to truckmen, which the truckmen would be forced to live up to, and which, at the same time, would be sufficiently attractive to shippers to insure their using the direct collection and delivery service. Finally, the railroad officials desired, above all else, to work out some plan whereby the trucking tail would not wag the railroad dog, as was the case under the constructive station and trucking in lieu of lighterage operations. After several more meetings of the committees of the railroads, it occurred to somebody that inasmuch as the truckmen would be vitally interested in the question before the carriers, it might be a pious idea to invite a select group of truck operators to a meeting with the railroad representatives. It was decided to use care in extending the invitations, and not to invite loud, obstreperous persons given to throwing bombs or failing to trim whiskers to the regulation length. We were amazed to receive an invitation to the conference.

The invitations were issued by J. W. Roberts, vice-president of the Pennsylvania Railroad. The conference was held on Aug. 21 in the office of the President of the Pennsylvania System, in Manhattan. Although only some eight to 10 truck operators were invited, the glad word of the doin's spread, and about 28 truckmen showed up and did a One-Eyed Connelly, otherwise known as "crashing the gate." Mr. Roberts opened the meeting by saying:

"Gentlemen, we are not committed to any plan which might take the place of the operations just terminated. The purpose of this meeting is to ascertain and exchange the views of truckmen and railroad officials to a suggestion embodying the adoption of a plan for store-door delivery. We want your views on such a plan, and also your opinions as to whether or not the shipping public would use this form of service. We are more or less thinking aloud, and we want you to think aloud with us. Your views will be held in confidence, and we feel we will derive much benefit from your experience."

It is our editorial belief that very little "benefit" was obtained from the "views" advanced at the meeting. The truckmen present seemed afraid to commit themselves, those that did speak treading very softly, and hedging on many pointed questions. They appeared a little startled at the drastic move confronting them, and they seemed to prefer to state their willingness to do railroad work of this kind should it be they were given a contract, invariably adding the railroads would get a type of service from them "as was a service," should a contract materialize.

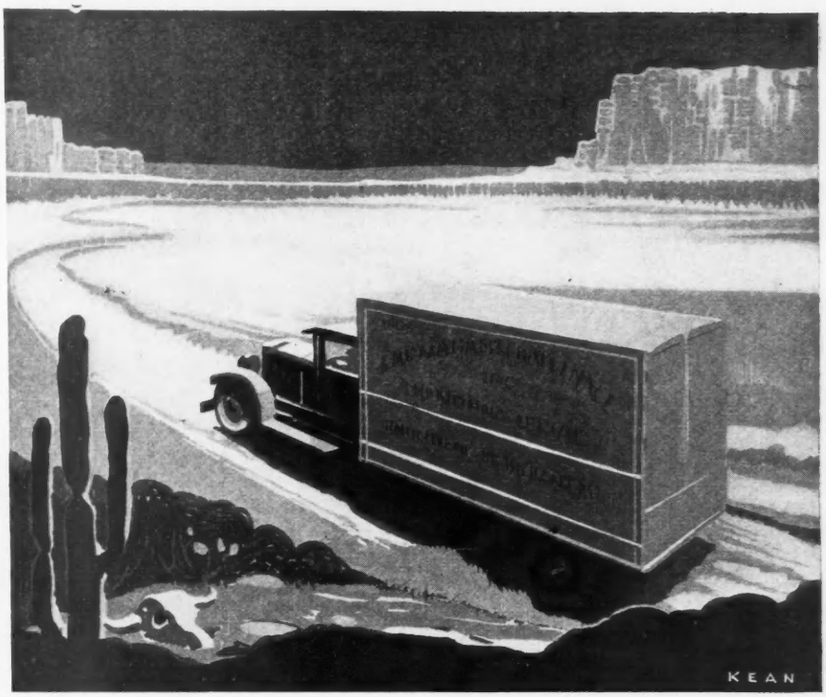
The railroad officials themselves seemed equally as hesitant about expressing their views, sounding, we thought, a rather pessimistic note anent the reaction of the shipping public to the inauguration of store-door delivery. One official pointed out at length that the constructive station and trucking in lieu of lighterage operations had been a distinct disappointment to them, from a patronage viewpoint, in that the great bulk of moving tonnage had not been drawn from the pier stations to the

(Turn to page 49, please)

REFRIGERATOR TRUCKS CONQUER THE DESERT

Carry City Comforts Across Sweltering Waste to Inhabitants on the Outskirts of Civilization

By George N. Kramer



DAILY the desert sun beats down unmercifully upon a lone truck that seems to crawl over the bleaching sands toward the withering horizon, somewhere between Los Angeles and the boom town of Las Vegas, Nev., the site of the Boulder Dam project. Creeping through the death-like valleys at sea level and then climbing to elevations a mile high, only to drop again into the sweltering heat, the truck moves on like a phantom through the night and like a mirage by day.

The people of Las Vegas know it to be a reality and not a phantom, because it runs on schedule, bringing to them over a distance of 300 miles commodities collected from the seacoast markets and with the sea breeze still upon them. Ice cream, beverages, fruits, vegetables, fresh meats and other perishable foods are the cargoes that are carried across the Mojave Desert with the mercury hovering around the 115-deg. mark in the shade. But there is no shade, and even at night the thermometer rarely registers less than 100. Even so, the perishables repose in a refrigerated van at 50 deg. throughout the 16-hr. journey.

Las Vegas has boomed within the past year, and its 7000 inhabitants, many of whom have been accustomed to other fare than the desert offers, require the better things of life. They look to the refrigerated three-ton model GA Reo Speedwagon to furnish them. Heretofore they could get these things by rail, but that necessitated rehandling, exposure to the heated atmosphere, inconvenience, a longer route and possibly delays. Now, the refrigerated truck rolls to the door of a clubhouse and delivers a consignment of fresh milk or other beverages right into the kitchen ice box; it drives to the corner drug store to drop several packing jackets of ice cream into the soda fountain; it brings the grocer fresh vegetables, and supplies the fruit stand with crisp, cool fruits. And it costs no more.

Not only the inhabitants of Las Vegas, but hundreds living near the dozen or more way-points served by the truck, who have not even the accommodations of railway service, have come to depend upon the new system. Unlike the boom population at Las Vegas, these people are experiencing a new standard of living, for the city has been brought to their very doorsteps. This effect is not as yet very pronounced because the service is new, but the increasing orders for shipment of goods indicate the demand for it. This is so

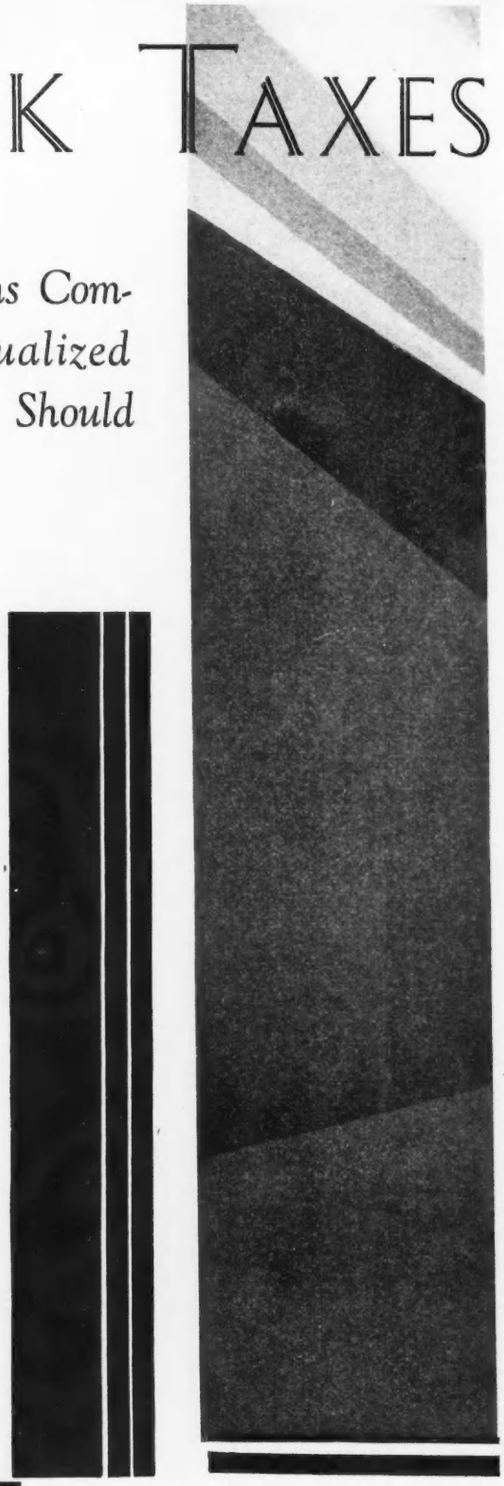
(Turn to page 54, please)

This Reo traversing the severest express route in Southern California covers 600 miles three times a week with six to seven-ton loads

Must Truck Taxes

Report to National Tax Association Claims Competition With Railroads Should be Equalized Through Taxation, and That All Trucks Should Pay a Business Tax

By George T. Hook



LEADING one to believe by the preponderance of his argument that the government is unintentionally subsidizing commercial motor transportation in its competition with railroad service, and that there should be an equalization of competitive conditions between the railways and the motor carriers, Prof. M. H. Hunter of the University of Illinois, chairman of the Commercial Motor Vehicle Transportation Committee of the National Tax Association, presented a committee report to the association's recent annual convention at Saranac Inn, N. Y., in which he argued an increase in taxes levied on all commercial vehicles so that the total paid would amount to 14 to 16 per cent of their gross receipts, instead of the 3 to 6 per cent at present. The report was entitled "The Taxation of Commercial Motor Transportation."

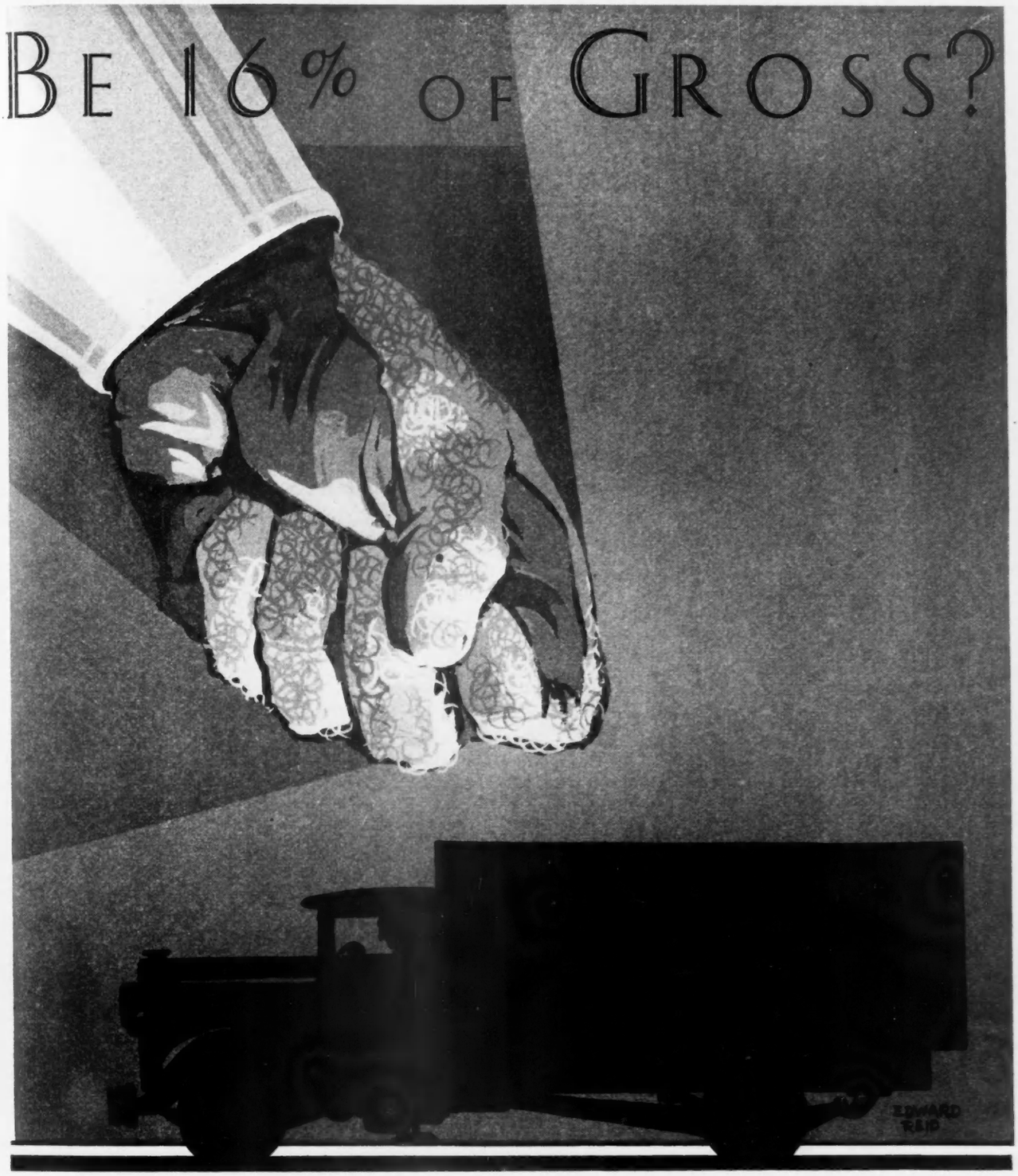
It is altogether probable that this report, if it had gone unchallenged, would, in the words of one truck executive, "have caused more drastic attacks by state legislatures on the motor truck and bus through proposed tax levies than any publicity that has ever been put out." The report was made to 785 delegates from 44 states, three Canadian provinces and Porto Rico. Those present included several governors, tax experts appointed by governors, tax administrators, economists, bankers and others either interested in the formulation of tax legislation or in its administration.

Fortunately the challenges before this tax-conscious group were both plentiful and powerful. They took Professor Hunter to task for the major premises, conclusions and theories advanced in the report, and for his failure to draw the analogy which exists in fact between the motor and railroad industries.

Approaching the subject of equalization, Professor Hunter's report said: "One rule of taxation is to levy a uniform burden upon competitive business. If, through some action of the government, undertaken for the public welfare, a particular business receives some advantage not enjoyed by its competitors, then there is an unwarranted subsidy. Justice would dictate the reasonableness of a tax sufficient to offset this unintentional subsidy. In the case of commercial motor carriers, then, if the gasoline tax, plus other payments to the government, does not impose a burden equal to tax burdens upon competitors, together with a charge to offset the subsidy from highway construction and maintenance, then there should be the levy of an additional tax."

Admitting there may be some question as to just how to measure the value of the "unintentional subsidy," the report continued: "One method is to make a direct comparison with the business with which the motor carriers are the most obvious competitors, the railroads. The railroads own their right-of-way and trackage, and must provide for their maintenance. It is in this aspect of the business that the highway subsidy favors the one competitor, the motor carrier. To equalize conditions, then, the government should impose upon the motor carriers a total burden equal to the taxes upon railroads plus the carrying and maintenance charge upon their right-of-way and trackage."

The report then proceeded to make a



comparison of the present burden upon the two types of transportation. "For the past three years the taxes paid by Class 1 railroads averaged about $385,000,000 a year. On a 5 per cent basis, the carrying charge on the book investment in roadway and structures is about $975,000,000; the expense of maintenance of way and structures is about $858,000,000. The total annual cost to the railroads arising from taxes and the provision for necessary roadways and structures is something like $2,218,000,000. The total gross operating revenue in 1928 was about $6,105,208,000. Thus the costs calculated above represent more than 35 per cent of the total gross operating revenue.

"From calculations made by the Motor Bus Division of the American Automobile Association the gross revenue from all common carrier buses for 1929 was $366,000,000. The total taxes paid were $22,000,000, or slightly more than 6 per cent of the gross receipts. The same organization has calculated the average gross receipts for a three-ton truck to be $15,000, the average gasoline tax $162.22, and the average license for a truck with pneumatic tires $210.90. If we assume other charges by the government units to bring the total tax payment to $450, then the taxes equal 3 per cent of the gross receipts.

"It appears from these calculations, if the purpose be to equalize competitive conditions between the railways and the motor carriers, that the charge made by the government upon the motor carriers should be much higher than at present. It may be fair to inquire, however, as to the justice of saddling upon the gross receipts of motor

carriers a carrying and maintenance charge equal to that borne by the railroads when such a charge, which can be ascribed to highways used by them, is much smaller. We do not penalize one railroad just because it has some natural advantage in its right-of-way, and the contention has merit that one transportation agency should not be penalized just because it chances to have access to some natural advantage not possessed by others. Any charge, then, in addition to a tax burden comparable to that upon competitors, should no more than equal the carrying and maintenance charge upon that portion of the highways which can properly be allocated to commercial carriers.

"There is only one type of data available upon which any allocation can be made, and that number of vehicles. Of the total number of vehicles registered, about one twenty-fifth were buses and trucks for hire. On this basis, then, about 25,000 miles of the 625,000 miles of improved highways could be properly allocated to commercial carriers. The carrying charge upon this on a 5 per cent basis, calculating the cost per mile at $30,000, is $47,500,000 per year. The present average annual maintenance charge of state highways is about $1,200 per mile. For the 25,000 miles allocated to commercial carriers, this would be $30,000,000, or a total carrying and maintenance charge of $67,500,000. Practically one-half of the carriers for hire are buses, so, on the basis of numbers, $44,750,000 would be the share of the charge which should be borne by them. This represents about 10 per cent of their gross receipts. The total taxes upon railroads are about 6 per cent of their gross receipts. On this basis, then, the exaction of the government from motor carriers would not be unreasonable unless it exceeded this 6 per cent plus 10 per cent—the carrying and maintenance charge upon that portion of the highways allocated to commercial carriers—or a total of 16 per cent of their gross receipts."

Dealing solely with operating statistics of 100 bus companies collected by the American Automobile Association, the report, considering only those companies operating at a profit, declared, "it took 2.6 per cent of the operating revenue to produce a net return of 5½ per cent on the investment. On this basis, then, for companies operating at a profit, the tax might be increased from the present 6.72 per cent of gross receipts to about 14 per cent, but to go above this would impair the return of 5½ per cent."

While complaining that Professor Hunter's report is largely based on bus data which are loosely applied to all "business vehicles," the minority report framed by C. B. Baldwin, chairman of the Highway Transportation Committee of the National Industrial Traffic League, took exception to the above arguments and conclusions of Professor Hunter's report as follows:

"The railroads own or control, or, in other words, have the exclusive use of the right-of-way over which the railroad operates, whereas the commercial vehicle has not more right to the highway than its competitor, including the railroad, if it sees fit to operate over the highway. The business handled by the motor truck is in no way comparable with that handled by the railroad. For example, a five-ton truck with two men, or possibly a five-ton truck with trailer and three men, would represent the maximum unit moving at one time, whereas the railroad could move a train of 75 cars loaded with 30 to 50 tons each with three men beside the engineer and fireman as a unit at one time, and the cost would be but a fraction of the cost of the motor truck haul.

"To assess taxes in the same proportion, therefore, would be grossly unfair.

"There are some who feel that the taxes borne by the railroads are unduly burdensome, and if such is the case nothing could be gained in the long run by placing an unjust tax on a competitive transportation agency so important and necessary to industry as the motor truck is today.

"A tax of 16 per cent of the gross receipts would, in all probability, force the majority of commercial motor truck carriers into bankruptcy, due to the fact that the margin of profit is seldom in excess of 5 per cent, and more likely to be less than 3 per cent. As to the tax upon the industry owning the truck, no better way could be found, in my opinion, to hamper the free movement of goods and create congestion, for it is almost certain that to many concerns this increased burden would make the operation of trucks prohibitive."

The minority report included some interesting testimony from the railroad side by quoting from a recent address made by A. L. Janes, assistant general counsel of the Great Northern Railroad. Said Mr. Janes: "To what extent the Interstate Commerce Commission should consider the effect upon forms of transportation other than highway transportation, which must be railroad transportation, is a matter of serious doubt. My own personal opinion is that highway transportation should stand alone; that the commission should only consider in granting a certificate the effect upon highway transportation and not consider the effect upon rail transportation. The two forms of transportation are dissimilar. The service which they render to the public is not the same."

The direct assault by the minority group was intensified by a cross-fire of comments from H. S. Fairbanks of the U. S. Bureau of Public Roads, which should help further to enlighten the reader. These were written after a perusal of the report, but were not presented to the convention. Mr. Fairbanks riddled every point made by Professor Hunter except one. He found himself in hearty agreement with the statement that "one transportation agency should not be penalized just because it chances to have access to some natural advantage not possessed by others." His sole grief in this instance was that "the author's proposals do not seem to give adequate recognition to the merit of this view."

The following were some of Mr. Fairbanks' comments:

"Would not the proposal to take into account the highway subsidy of motor carriers in imposing taxes upon them in order to offset the right-of-way costs of their railroad competitors also have to be extended to ship lines? Does not the government, by dredging channels, improving harbors, etc., 'unintentionally' subsidize the ship carriers? Has the author overlooked the substantial subsidies granted to railroads during their period of construction?

"In his comparison of the present burden upon the two types of transportation the author apparently overlooks taxes paid by motor carriers on property (vehicles, garages, depots, etc.) and income taxes in his estimates of taxes paid by these carriers. The rail taxes used in the argument, I assume, include all taxes paid.

"The cost of $30,000 per mile is too high as an average cost of highway construction. The average cost of the 625,000 miles mentioned is less than $20,000 a mile. The average maintenance charge of $1,200 per mile is excessive. The total maintenance expenditure in 1927 was $376,753,825, and a considerable portion of this sum was expended in roads not included in the surfaced mileage of 588,721, then completed, which corresponds to the mileage of 625,000 assumed for the present. Assuming that all of the above amount was expended on the 588,721 miles, the average per mile would be only $650. Using $20,000 as the average cost per mile of highway, the carrying and maintenance charge would

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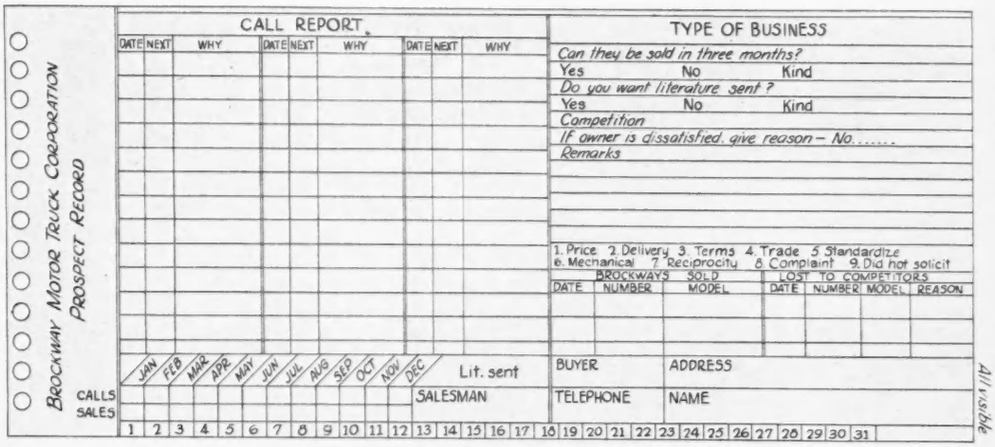
SIMPLE LOOSE-LEAF FORM KEEPS TABS ON PROSPECTS

Makes for Intelligent Approach and Effective Managerial Control

By Arthur J. Peel

(Consulting Accountant, Boston, Mass.)


BROCKWAY MOTOR TRUCK CORPORATION
PROSPECT RECORD
CALL REPORT
DATE NEXT WHY
TYPE OF BUSINESS
Can they be sold in three months?
Yes No Kind
Do you want literature sent?
Competition
If owner is dissatisfied, give reason — No.....
Remarks
1. Price 2. Delivery 3. Terms 4. Trade 5. Standardize
6. Mechanical 7. Reciprocity 8. Complaint 9. Did not solicit
BROCKWAYS SOLD
LOST TO COMPETITORS
DATE NUMBER MODEL
DATE NUMBER MODEL REASON
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
Lit. sent
BUYER
ADDRESS
CALLS
SALES
SALESMAN
TELEPHONE
NAME
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

All visible

SUCCESSFUL salesmanship depends as much on effective sales records as it does on sales ability. Many a prospect has been lost because of failure to make and keep on file a complete record of all the facts which had a bearing on the prospective sale. Many salesmen, including the motor truck salesman, often forget that the kind of argument that breaks down sales resistance is not that which is repeated over and over again—either as sales talk or in the form of advertising literature—until the prospect gives in; it is scientifically analyzing the cause, or causes, of resistance, and then concentrating on the one or two obstacles which prevent the closing of a deal. And with each prospect these one or more obstacles may be different.

But this entails adequate records, not only in the salesman's "tickler" file, but in the office of the sales manager. Without complete records in the sales manager's office, proper control and check-up of salesmen's activities are not possible. It would seem that these simple truths are elementary, but after some years of public accounting experience, and in reorganization work, in large concerns, I know that even in firms enjoying a national reputation, one sometimes discovers an absence of something which is really vital to intelligent and effective managerial control. I offer no apology, therefore, for bringing to the attention of the readers of this magazine, a simple yet workable form of record which is being used in the Boston sales office of the Brockway Motor Truck Corp., and which fulfills every requirement demanded by modern business.

Before taking up some of the main features of the form itself I will say a word or two about the mechanics of the system. This record is not a card, it is a loose-leaf proposition. But the binder in which it is used is an all-visible type which permits of 20 or 30 forms to a "page" by an arrangement whereby each form overlaps the other by the space of one hole. The effect of this ingenious arrangement is that all the information below the arrow marked on the cut accompanying this article is visible as soon as the "page" is opened. Any single form can be instantly removed, or a new one inserted, without disturbing the arrangement of the other forms on the page. These records can be classified in any way desired; either by alphabet, or by territory, or by any other distribution more convenient for quickly locating the individual record required.

For each prospect *two* records are prepared. One is kept in the prospect's file (binder) in the sales manager's office and the second is the salesman's record for

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SHOP RETURNS 10%

SOME truck dealers regard their repair shops as sore spots, rather than sources of profit. And there are several good reasons for this condition. In the first place, the dealer's best prospective maintenance customer — the large fleet operator—usually has his own garage and repair shop, and hence for him the dealer's shop service is not needed.

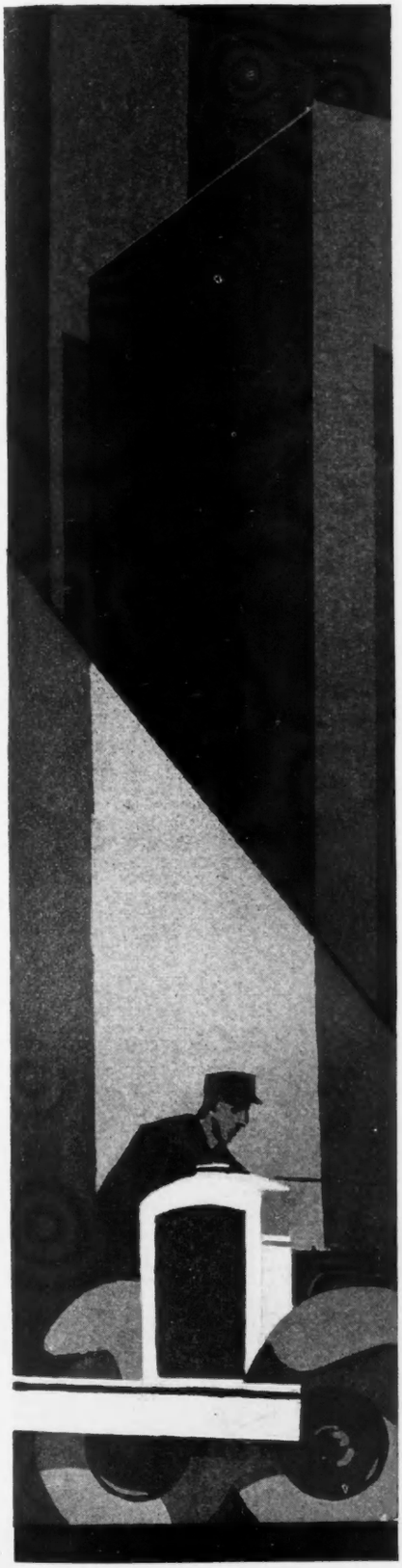
Of course, there are many fleet operators that must depend on the dealer's shop, but usually they represent the smaller operators with only a few units, and usually no reserve units at all. And there's the rub so far as the truck dealer is concerned.

Even though the truck dealer secures a considerable maintenance volume from among the smaller operators, it's often an unsatisfactory business because so many fleets have no extra trucks for emergency use. Resultantly, when a truck comes into the shop for repair, it's a rush job that *must* be shunted through the works pronto. That means one of two things, or both—an oversize shop crew for the dealer which eats away the profit during slack days; or makeshift repair work that does justice neither to the truck, the operator nor the dealer.

Such was the analysis of truck maintenance by the C. H. Wells, Inc., Seattle, two years ago. This concern deals in Chevrolet trucks and passenger cars.

What to do? The

WITH NIGHT GANG



Small Force Proves More Productive Than Day Crew and Helps Chevrolet Dealer to a Profit

By Mandus E. Bridston

Pat Brady Says Night Service:

ELIMINATES need for oversize shop crew to accommodate rush jobs.

Prevents makeshift repair work resulting from undermanned shops rushing through emergency orders.

Helps sales department when talking advantages of company's service plan.

Increases shop's margin of profit by increasing labor sales.

Permits operators to bring their trucks in shop during off hours.

Encourages owners to use shop's inspection service.

Helps parts sales because owners doing own work can make their purchases at night.

Results in quicker and more efficient work because of less interruptions.

Pat Brady, Service Superintendent

management first tried the experiment of servicing trucks only during the 30-day guarantee period. In other words, the firm attempted to get away from truck maintenance as a regular business. That experiment was short-lived, for it was found that, with all its alleged drawbacks, maintenance is an all-important part of selling.

Now the C. H. Wells, Inc., has licked the truck maintenance problem, and whipped it into a profitable department. In July this year the repair shop reached a peak with a volume of $12,500, representing a net profit of about 10 per cent. Though this volume is not reached every month, the net profit of 10 per cent is held fairly constant.

The change was brought about by the simple remedy of putting on a night shift specializing in truck work. From a purely profit standpoint, the advantage is best noted by the fact that when 20 day men bring in $300 in labor sales, the 7 night men turn in $200 in labor sales. These relative volumes were actually reached a day or two before the writer interviewed Pat Brady, service superintendent, and though the totals vary from day to day, the proportionate income of the day and night shifts does not vary much from the figures given.

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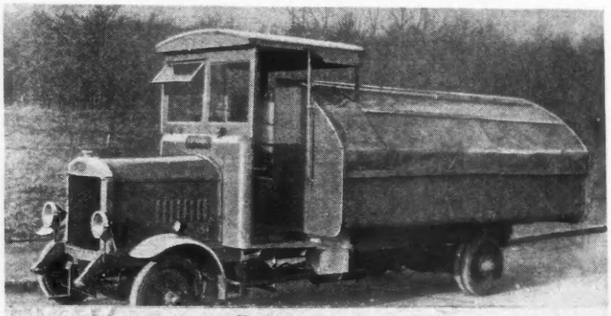
CLOSED BODIES MEET

European Designs Eliminate Dust, Prevent Spillage, Confine Odors and Facilitate Collections



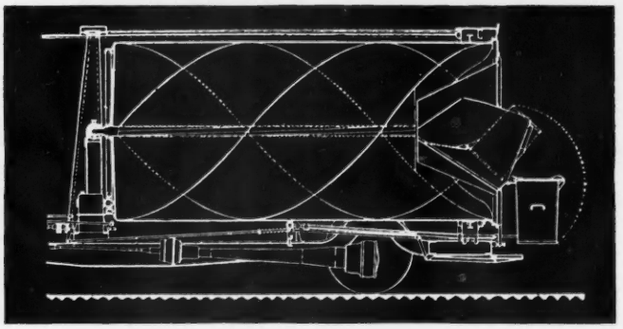
Above: Low-loading, canvas top refuse collector produced by Dennis Brothers, England. Note small diameter wheels and front end of body incorporating driver's seat and carrying rear end of cab. Right: A non-hoist ash removal body developed by Keller & Knappich, Augsburg, Germany. The body is a revolving drum. Helical conveyors inside the drum work refuse forward for loading or backward for unloading according to direction of cylinder rotation

REFUSE and garbage collection is one of the most important of municipal undertakings, constituting one of the biggest items in municipal budgets. Not only does the public demand that the service be rendered at frequent and regular intervals and with the least amount of annoyance, but of still greater importance, that the budget be spent most efficiently. To meet this varied requirement there must be efficiency not only in management, but efficiency in equipment as well.

While enclosed bodies do not seem to have gained favor in the United States to the extent that they have in Europe it is quite likely, in view of their great success in Europe, that the idea, once it becomes rooted in one of our municipalities, will make just as great strides in this country. In anticipation of greater public interest in this type of equipment, which, in fact, already has been manifested in several sections, COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE has contracted with several foreign makers for details on their equipment.

European progress has been directed along the line of employing many different types of trucks with special bodies to keep down dust and otherwise permit sanitary collections and at the same time permit economical operation.

These bodies are mostly of the closed roof type, provide ample capacity, facil-



REFUSE PROBLEMS

itate loading and unloading, prevent spillage and material from being blown around the streets, confine obnoxious odors, etc. While differing in detail most of the Continental vehicles possess the same fundamental characteristics.

Among the low-loading, closed-roof bodies for refuse collection of recent development are three interesting English jobs. They give an excellent conception of how cleaning authorities in England are tackling the refuse collection problem. One employs canvas and the other two metal for covering material.

The canvas-topped job, designed and produced by Dennis Brothers, Ltd., Guildford, England, incorporates a Dennis 30 cwt. chassis and a 7-cu. yd. all-metal body and has a loading height from top of sides to ground of 4 ft. 4 in. The whole of the rear of the vehicle forms the emptying door, which opens in halves, leaving an unobstructed chute. The body itself is 6 in. wider at the rear to facilitate unloading. While canvas covers are standard, steel covers are available. The covers are arranged to allow a small section of the body to be uncovered at a time. For discharging the body is equipped with a hydraulic hoist. It is of the triple telescoping type and has two cylinders fed with oil from a pump driven from the transmission. Another interesting feature is the way in which accommodation for the driver has been arranged and how equalization of load on front and rear axles to reduce rear overhang has been accomplished. Space for the driver's seat is formed by a recess in the forward end of the body, which construction extends loading space to each side and underneath the seat and provides 1½ yd. of the total 7-yd. capacity. Overhead is a wooden canopy rigidly attached to the body and overhanging the windshield, of which one section is open. Entrance is effected from either side. The weight of the truck complete with body is under 2 tons.

The second English job mentioned in the

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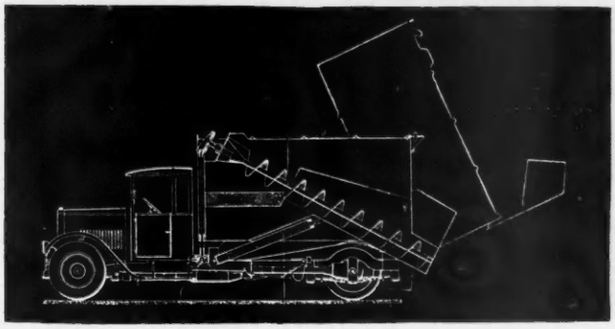
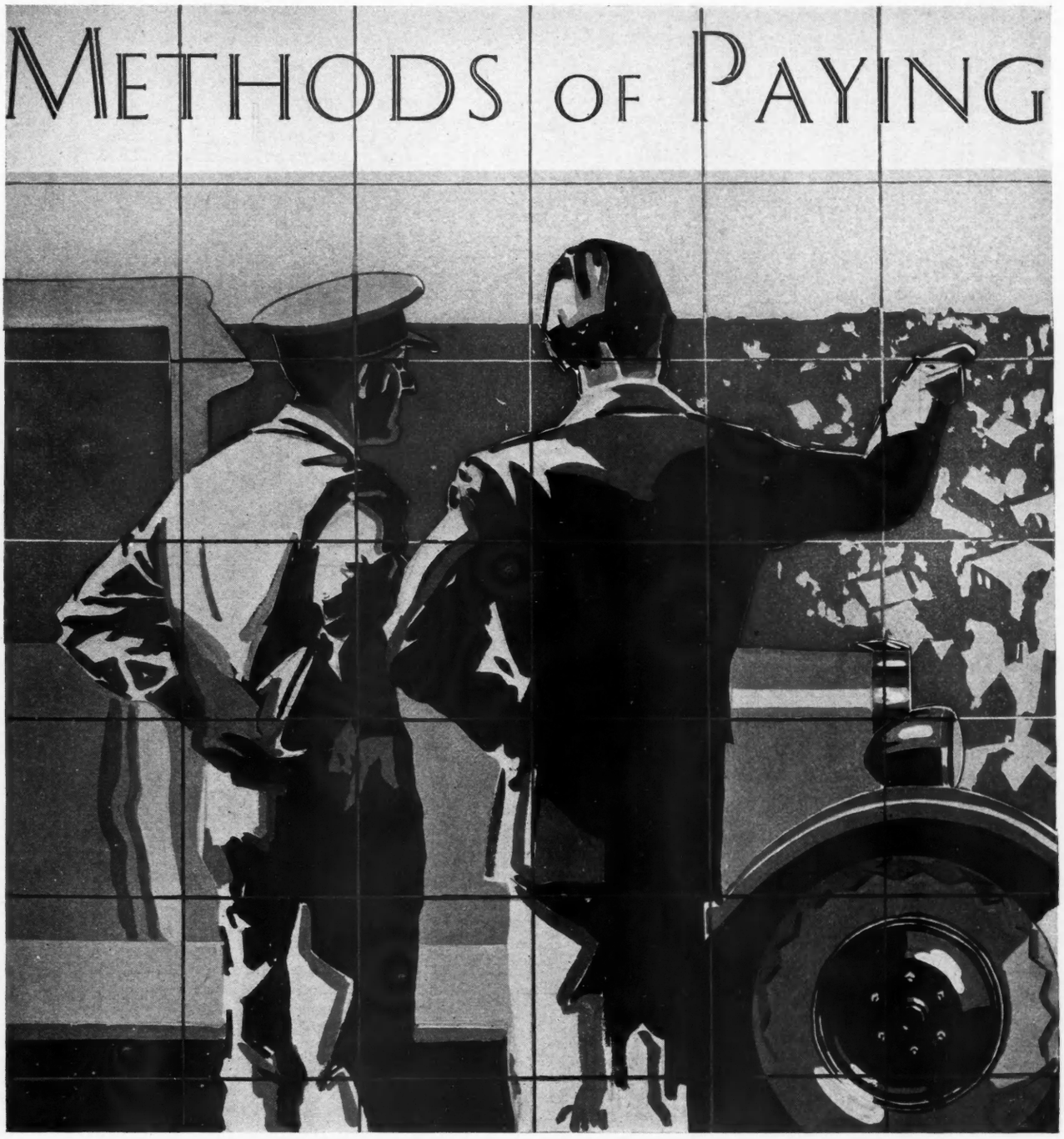


Above: All-metal, closed roof refuse job designed by Bean Cars, Ltd., England. The roof consists of four spring loaded covers, which when released raise automatically. Note extra side strip for lowering loading line. Left: This refuse body built by Morris Commercial Cars, Ltd., England, is equipped with a three-way, hand-operated dumping mechanism. Below: Diagrammatic view of dustless refuse collector made by the Krupp Co., Essen, Germany. The screw moves refuse forward and occassional hoisting distributes it through the body

METHODS OF PAYING



WHEN a truck driver is the main point of contact with his employer's customers, management is confronted with the delicate personnel problem of evolving a wage plan which will attract the type of men who will create a reputation for service and maintain good will. This is particularly true of drivers who also function as salesmen.

Not only is it necessary to attract men who are smart, who have good personality, good appearance and are able to speak intelligently, but men who are energetic and willing to plug. Certainly, men who possess these qualities can be secured, but it does not necessarily follow that they will exploit them to their fullest extent. No matter how conscientious, the human make-up being what it is, few drivers will keep everlastingly on the job unless there is some incentive to spur them on. Energy must be induced. Hence, to keep up the driver's interest in the welfare of the company, its business, equipment, etc., some mutual plan whereby the driver can be made to feel that he is an important unit in the organization and which will enable him to participate in the profits in proportion to his effort must be devised. This is the opinion of more than 20 executives heading such businesses as laundry, ice cream, milk, baking, beverages and grocery companies.

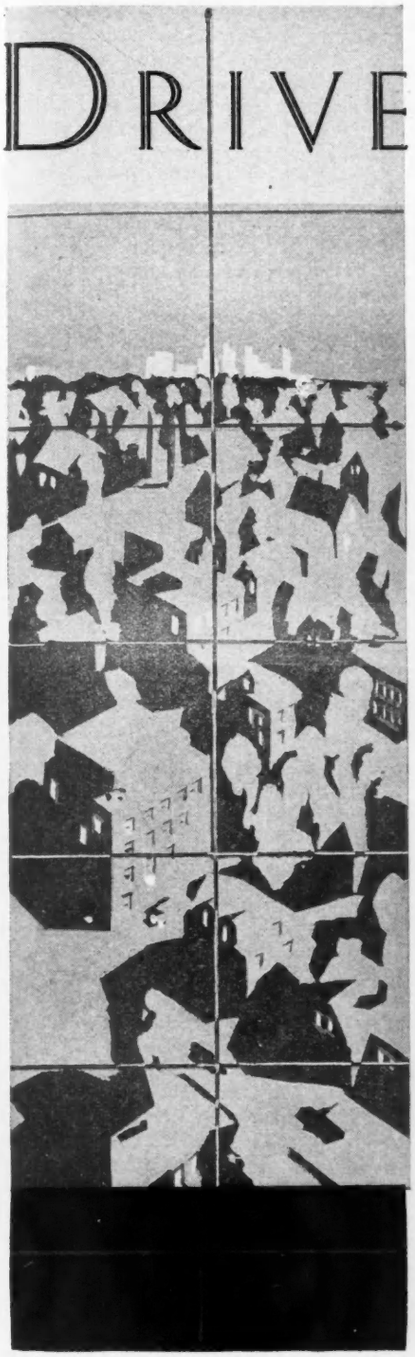
Many plans of compensation are employed. While they vary in minor aspects, and in manner of administration, they are all fundamentally incentive in character. Some companies prefer stipulated salaries with commissions on sales; others use the same combination with an additional bonus for exceeding special sales quota; some employ straight salary and bonus only, and some purchase trucks for their drivers on a financial basis and practically set them up in business on a contract arrangement.

In addition to these major plans, various minor and independent efficiency-inducing plans are frequently employed, such as special prize contests,

DRIVER SALESMEN

A Survey of Incentive Wage Plans Employed by 21 Concerns in 7 Different Vocations

By Martin J. Koitzsch



bonuses for the return of containers, non-accident awards and extras for good appearance and condition of truck equipment. Of the plans outlined, the combination salary and commission plan is most popular. Companies operating strictly commission plans are rare. It is the opinion of executives that men are hard to attract on a pure commission basis, because as a general rule they like to feel assured of a definite income, no matter how successful they may be.

Advantages of incentive wage plans are many. The unanimous opinion of executives employing them is that where volume is concerned greater efficiency is obtained, greater sales are obtained, customer complaints are reduced, accounts are more regular and company standards, relations and service are improved. The reason for this general improvement is obvious: a higher-calibre man is attracted, one who realizes that his income depends on service, courtesy and cooperation and who capitalizes these fundamental business elements. Moreover, if the plan is right, he stays with the company. As a consequence the company reaps the benefit of light labor turnovers, which, of course, is reflected in the development of much desired amicable customer relations.

Shown in the accompanying table is an analysis of wage plans used by 21 companies in seven different vocations. It will be observed that all except two are incentive in character and that while incomes average about $40 per week, the range extends from $25 to $90.

While most incentive wage plans include the establishment of some kind of quota for sales and the payment of a commission or bonus for sales over and above this quota, different distributing and handling conditions between the various vocations call for different detail treatment. Therefore, probably the most satisfactory method of approaching a study of the various plans employed is by vocation.

Laundries, as the table reveals, tend decidedly toward the salary commission plan. Laundrymen generally are guaranteed a minimum of $15 per week plus 10 per cent on all business over a certain amount, which brings their average income to about $35 to $40 a week. But there are many who make from $60 to $100. The basic salary, sales quotas and commissions, of course, vary with the character of the laundry's business. Some laundries specialize in damp wash, others in aprons and towels, bachelor

DRIVER-SALESMAN COMPENSATION PLANS

	Driver Owned Trucks	Salary and Commission	Extra Bonus	Straight Salary	Average Weekly Income	Range of Income
LAUNDRY	no	yes	no	no	$45	$27½-$75
	no	yes	no	no	40	25-50
	no	yes	no	no	35	25-70
	no	yes	no	no	35	25-80
ICE CREAM	no	yes	yes	no	40	35-60
	yes	no	no	no	50	40-70
	no	yes	yes	no	40	30-50
	yes	no	no	no	30	25-45
BEVERAGE	no	yes	yes	no	68	58-90
	no	no	yes	yes	45	35-60
	no	no	no	yes	35	
MILK	no	yes	yes	no	48	35-85
	no	yes	yes	no	52	44-70
	no	yes	no	no	40	35-65
	no	yes	yes	no	44	28-60
BAKERY	no	yes	no	no	48	30-70
	no	no	no	yes	35	
	yes	no	no	no	35	30-50
MEAT	no	yes	no	no	38	35-75
ROLLING GROCERY STORE	no	yes	yes	no	45	50-70
	no	yes	yes	no	40	35-80

parcels, etc. For example, the Regal Laundry, Baltimore, pays a straight salary of $35 per week with an average commission of 12 per cent. Commissions vary according to the character of the laundry. Damp wash brings the driver a slightly higher commission than finished laundry because working hours are longer. Besides, damp wash brought in during the latter part of the week when business slackens brings a still higher return. In other words, percentages are graduated according to the days of the week damp wash is brought in. The company also handles what is termed "Finished Work" which comes under two classifications, each division paying the driver a different commission. "Bachelor" bundles, which bring the company a small return, pay the drivers a commensurately small commission, but "complete finish" bundles represent larger orders and the drivers benefit jointly with the company by a larger commission. When routes become too unwieldy for one driver they are split, but the drivers receive all commissions on transferred business for a period of six monthss. Many Regal drivers have had their routes split three and four times and like it.

Of the ice cream companies interviewed two employ salary and commission plans and two set their drivers up as independent owners operating their trucks under a contract arrangement. Inasmuch as each of the four plans differ from each other in many aspects and possess several meritorious characteristics a brief outline of each is in order.

Driver-salesmen of the Eskimo Pie Corp., Brooklyn, makers of chocolate-covered ice cream bars, receive a straight salary of $5.83 a day or $40.81 for a seven-day week. Commissions are paid on the sale of every dozen over 1500 at the rate of 1 cent per dozen. In addition drivers can earn an extra bonus by exceeding their own weekly records. This bonus is arranged on an ascending scale; namely, 1 cent a doz. for each 100 doz. over the previous record; 2 cents for each 200 doz. over; 3 cents for each 300, etc. Not satisfied to let his incentive measures rest at this point, S. A. Glendinning, manager of route sales, conceived the idea of stirring his men to still greater efforts by scheduling monthly prize contests twice a year. Winners receive several cash prizes ranging from $100 down, awarded at a special banquet to which the whole staff is invited. So that the contest will be fair to all it is conducted on a percentage basis.

"We select a certain week, invariably a good week," Mr. Glendinning said, explaining the plan, "and multiply the sales of each salesman on our staff by four, which product forms the basis upon which the percentage increase of each salesman's sales for the contest month are determined. The contest brought results, in fact our entire incentive wage plan which has been in effect a little over a year is largely responsible for a tremendous increase in sales over the previous year."

C. G. Vollmer, fleet superintendent, Tech Food Products Co., Pittsburgh, Pa., ice cream makers, uses the salary, commission and bonus plan of compensation, which in his opinion, is responsible for the steady and high grade type of men in his employ. He also ascribes sales increases and efficiencies in distribution to the plan. Tech salesmen receive a straight salary of $27 a week plus an additional bonus of $3 for Sunday work. Commissions of 1 cent a gal. on sales, and ¼ cent a doz. on small package ice cream, and bonuses of 1 cent for each returned empty can and 2 cents for each returned can lid constitutes the incentive part of the plan.

"The bonus on the empties and the lids certainly brought about the desired results," Mr. Vollmer said when discussing that phase of the plan. "Savings in replacements more than cover the commissions. While our men average from $30 to $50 a week, some of them draw as much as $100 a week for a week's work of seven days and several draw over $2,400 a year."

Driver-ownership of trucks is the incentive method employed by Meyer & Power, Pittsburgh, in solving its delivery and distribution problems. None of the trucks in the Meyer & Power fleet is the property of the company, according to Fred Meyer, president, but the property of each driver. The company, of course, helps to finance its drivers in making purchases.

While the company assumes no responsibility for the cost of operating the truck equipment, it does require that it be maintained in good condition and be of neat appearance. The trucks are serviced by their owners in any manner they see fit and fueled at their expense. The company pays each driver 10 cents a gallon for ice cream deliveries, which is sufficient to compensate the driver for his work and for the upkeep and operation of his truck.

Mr. Meyer is well pleased with the success of his plan, having always contended that any man who can afford to own and operate a truck for his livelihood is above the average truck driver type. He cites as advantages the elimination of company maintenance of trucks whose drivers might or might not be careful with their equipment, elimination of all cost-keeping and finally increased sales.

Mr. Meyer explained that while the trucks are owned by the drivers, the bodies, all of which are painted and lettered at regular intervals at the company's expense, are owned by the company. The company also furnishes ice and salt; all other expenses are assumed by the driver. Each driver is required to build up a reserve against which the company may draw in event of failure on part of driver to meet his bills.

"We consider our incentive plan responsible for a great increase in business and also for light labor turnovers and contented personnel. Our men can easily earn $3,200 a year and we know that they are working for our benefit, because their success is our success. They are always willing to come on the job, whether it be at night, on Sundays or during any emergency. Service is the by-word and rarely do we hear of postponement of customer orders to the following day."

J. G. Hoff, general superintendent, the Coca-Cola Bottling Works of Pittsburgh, Pa., describes the method of compensating drivers used by his company as follows: "We try to use a certain amount of psychology on our drivers, calling them driver-salesmen. We pay our delivery men a straight salary of $15 a week, which incidentally is used by the driver toward paying for the services of a helper, plus a commission of 4 cents for each empty case complete with 24 bottles. Our payments are based on returned cases and not delivered cases. In addition, a bonus is paid to salesmen exceeding 50,000 cases a year. This is above a 3-cent bonus for each case sold over the driver's previous annual record." Mr. Hoff explained that in view of comparatively short hauls in heavily populated sections his drivers average from $3,000 to $4,500 per year.

"That our men are satisfied with the incentive methods employed by us can be best indicated by citing the service records of nine of our drivers. Five of our men have been in our service over 12 years, two over 15 and two from 15 to 19."

The incentive method used by the Coca-Cola Bottling Works of Louisville, Ky., is very similar to the Pittsburgh plan. The men receive a straight weekly salary with a commission of 2 cents on each empty container brought in full of empty bottles.

While the two above examples of wage incentive plans have been found practical and satisfactory, some bottling executives question the advisability of attempting to combine the functions of driving and selling. Hoffman Beverages Co., Newark, N. J., have special salesmen to cover the territory, while drivers do nothing but deliver. This company produces 16 different flavors of soft drinks. In view of the large variety of flavors supplied, the drivers cannot possibly provide 100 per

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A Fleet Garage That's All Ramp

Spiral Floor for Storage and Service Provides Maximum Floor Space

HOW to move vehicles to and from upper floors is one of the problems which a fleet operator who is planning to build a new garage with more than one floor must meet. Elevators and ramps are obvious solutions and each has many adherents. Both take up space which cannot be used for storage and thereby reduce the net available floor area.

By sloping the floor about 6 deg. so that whole interior forms a large spiral ramp the Consolidated Gas, Electric & Power Co., Baltimore, Md., found that the maximum number of vehicles could be stored on the ground space available. This design was compared with several others by E. J. Jahn, superintendent, transportation department, and other officials and was incorporated in a new garage with a capacity of 60 trucks and 215 passenger cars.

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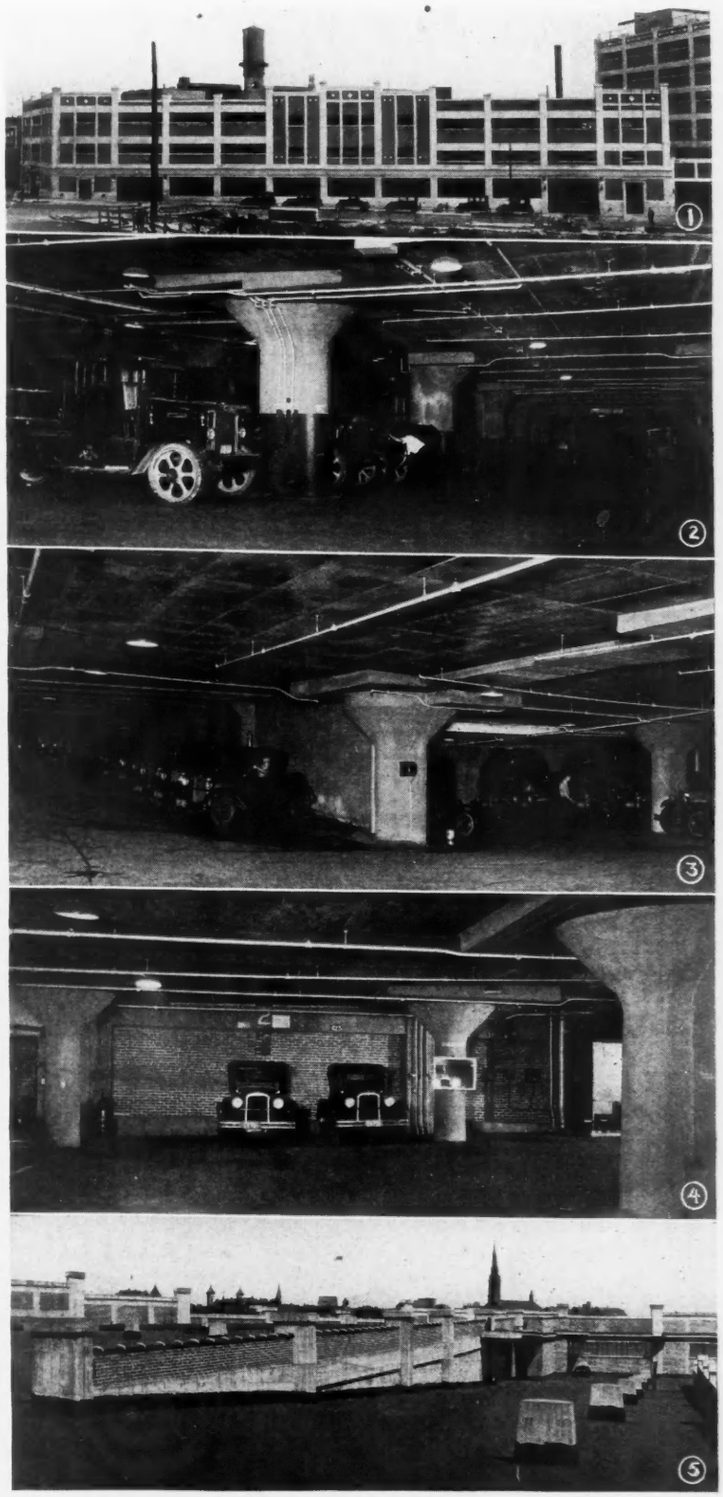


1—Exterior view of the garage gives little indication that it is of the inclined floor type. Frontages shown are 75 ft. and 225 ft. Passenger cars enter doors in front and side, at left, and trucks enter door at right

2—View of part of the truck storage section. Columns throughout the building are oval. Note air, hot and cold water outlets on column. There are several such outlets in each section so that vehicles may be washed in position without moving to a wash rack

3—Inclined sections are separated by a center wall. The continuous center aisle is carried around the end of the wall in a semi-circle. Turns, at each end of the building, are wide enough for two cars to pass

4—Mirrors are provided on turns to permit drivers to see a vehicle approaching from the other side of the wall

5—The roof, constructed so that another "floor" may be added, shows clearly the incline of floors and turns at the ends

TRUCK TRAILERS

①

②

③

TRAILERS of various types are used in so many different ways that many sellers and users of motor transportation wonder if there is any underlying principle of general application to trailer operation. When they seek information on the subject they find a lot of facts which seem contradictory. Having, perhaps, a vision of a trailer as a heavy-duty slow-speed freight vehicle used for carrying loads beyond the capacity of a truck, they find trailers being used in the light-duty field and others which carry heavy loads at passenger-car speeds. Confusion in their minds is increased when they try to find the dividing line between semi-trailer and four-wheel trailer application and learn that many operators use semi-trailers for both services by slipping a two-wheel dolly under a semi-trailer to transform it into a four-wheel unit for the time being. In fact, this fundamental rule for trailer application is as difficult to find as the plot in many a musical comedy or a central theme for incidents in a weekly news reel.

A change in viewpoint may be helpful in clarifying the conflicting evidence. "Consider the trailer from the standpoint of the shipper of freight, rather than from the hauler's side," suggests a successful inter-city hauler.

Discussion of trailer operation usually is devoted to its effect upon the hauler. It is said that trailers make it possible for trucks to carry heavier loads, thus transporting larger units than can legally be carried on trucks, or trailers reduce ton-mile cost so that haulers can meet freight or motor competition. The story about a truck unit hauling one trailer while another is being loaded has been repeated over and over.

However, the shipper is the one to be pleased and in many instances he is willing to pay a premium for convenience, or give his business to those who best serve him. Collateral advantages, such as convenience in loading, may equal if they do not outweigh some of the factors upon which so much emphasis has been placed. This is particularly true in the case of manufacturers who, in general, prefer to make their shipping platforms part of their plants and load shipments as soon as completed.

Trailers spotted along shipping platforms become bins in which manufactured products are placed with a minimum of handling and, in many cases, without any packing. Such an arrangement obviously saves money for the shipper. In fact, in some instances the elimination of packing equals a large part of the total cost of shipping.

Truck and trailer trains abound in sections of Illinois, Michigan and Ohio which are within trucking distance of automobile and truck factories in Detroit. Millions of castings, forgings and similar parts are made in factories in this area and transported to Detroit by trailers. A traffic manager jokingly explained the situation by saying, "Ohio and Michigan manufacture our automobiles and Detroit assembles them." His remark, far from accurate, as he knew, served to emphasize the amount of hauling done between factories which make parts of automobiles and trucks and the home factories.

Factory schedules for manufacture of automobiles call for a steady flow of material to the assembly line. To reduce handling at the plant, stock is kept at a minimum and it is absolutely necessary that shipments arrive according to schedule. Factories supplying automobile makers with parts therefore are obliged to arrange shipments in strict accordance with demands of the makers. Flexibility of truck transportation fits in well with this situation, and it is not suprising that volume of freight highway transportation is growing in this section.

HELP SHIPPERS

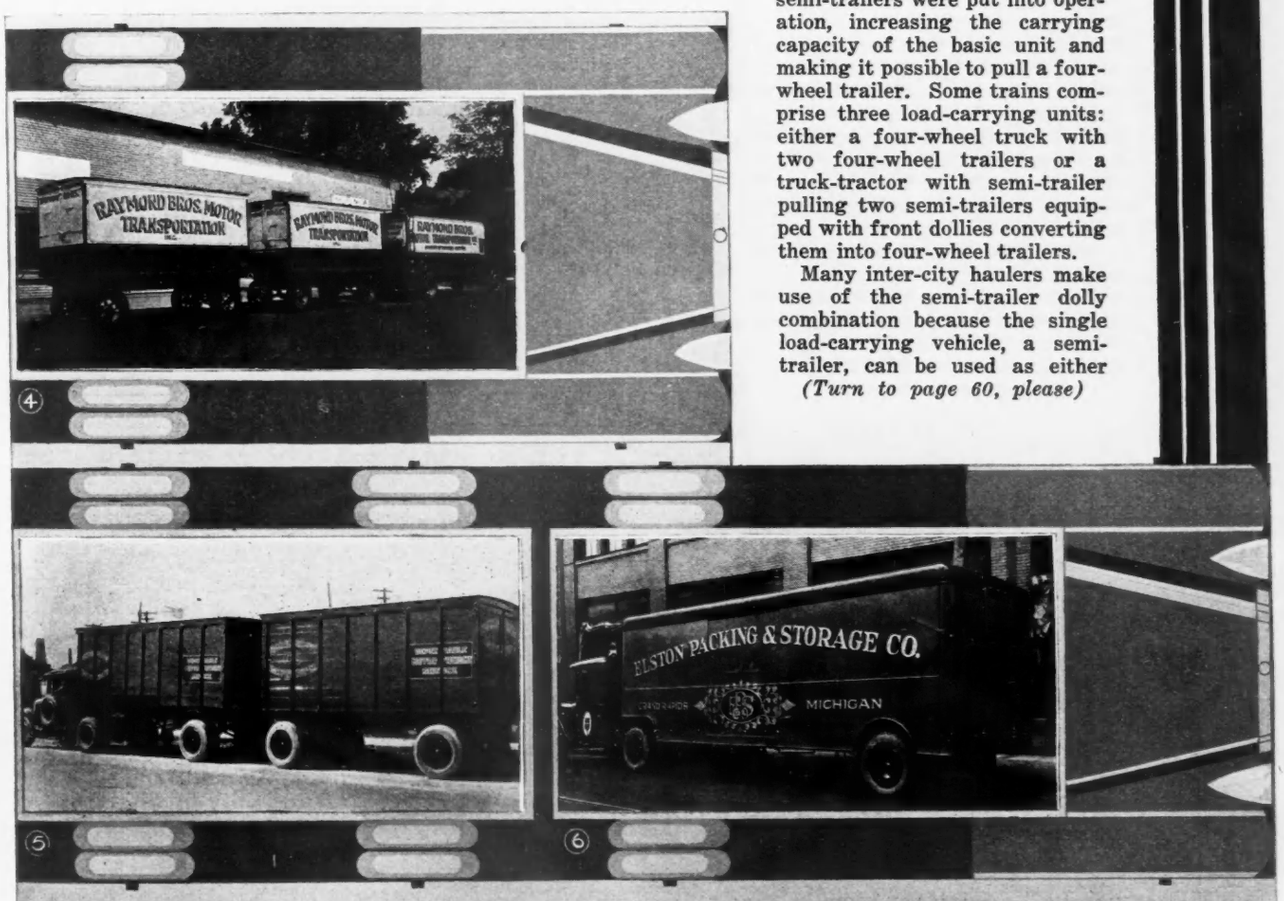
Loading Convenience and Transport Economy Accomplished by Trailers of Many Types Accelerate Great Growth of Trailer Use

By James W. Cottrell

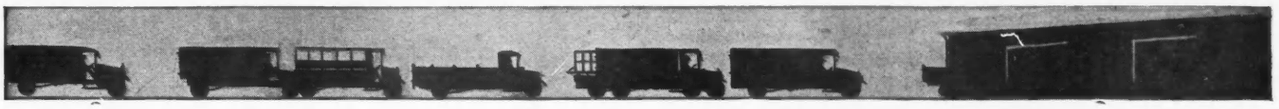
While convenience to the shipper is foremost in minds of truck owners serving this field, competitive conditions have brought about an increase in size of units and of loads carried by single trains. At first a single truck was used, and then larger and larger trucks were employed until the legal limit had been reached. The next step, in many cases, was to add a four-wheel trailer to the outfit, increasing the carrying capacity and reducing the cost per ton-mile. Then semi-trailers were put into operation, increasing the carrying capacity of the basic unit and making it possible to pull a four-wheel trailer. Some trains comprise three load-carrying units: either a four-wheel truck with two four-wheel trailers or a truck-tractor with semi-trailer pulling two semi-trailers equipped with front dollies converting them into four-wheel trailers.

Many inter-city haulers make use of the semi-trailer dolly combination because the single load-carrying vehicle, a semi-trailer, can be used as either

(Turn to page 60, please)



Left to right, top row: A motor highway train consisting of a tractor-truck, semi-trailer and two four-wheel trailers for hauling gasoline. A light truck and tank semi-trailer carrying about 700 gal. of gasoline was tested recently by oil companies with the idea of replacing heavy trucks. Second row: Twenty-two pneumatic tires support this load which is hauled on a six-wheel truck and six-wheel trailer. Four-wheel truck and two four-wheel trailers for large capacity freight hauling. Third row: Another combination for large capacity freight hauling, a truck, semi-trailer and four-wheel trailer. When extra large van capacity is required the body is mounted on a semi-trailer

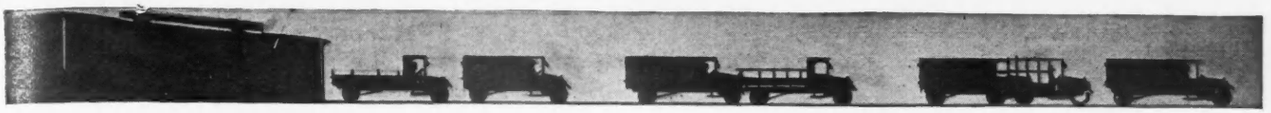


NEW TRUCK SALES

Complete Figures for July, 1929; Totals for

	Acme	American La France	Atterbury	Autocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge Bros.	Fargo	Federal	Ford	G. M. C.	Gotfredson	International	Larrabee	Mack	Moreland	Pierce-Arrow	Relay	Reo	Republic	Rugby	Schacht	Selden	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Total Sales by States Including Miscellaneous
ALA.....July	...	...	...	.....	2	386	.....	12	1	1	254	1	...	25	...	.....	...	...	...	1	...	...	...	...	...	.....	.....	13	6	...	704
7 mo.	...	...	...	.....	5	1,511	.....	95	7	10	1,325	44	...	175	...	11	...	...	1	21	...	1	...	...	...	1	1	24	21	1	3,264
ARIZ.....July	...	...	...	.....	.....	71	.....	13	1	.....	96	12	...	6	...	1	...	...	...	4	...	3	...	...	...	.....	2	2	2	...	213
7 mo.	...	...	...	.....	.....	512	.....	163	8	.....	860	84	..	101	...	5	2	...	...	32	...	16	...	...	...	3	32	11	11	6	1,852
ARK.....July	...	...	...	.....	5	400	.....	26	8	.....	513	12	...	83	...	1	...	...	...	4	...	1	...	...	...	.....	4	15	3	...	1,086
7 mo.	...	...	...	.....	11	1,397	3	143	11	7	2,055	52	...	350	...	6	...	...	...	45	...	3	...	...	...	.....	8	34	33	1	4,186
CAL.....July	...	2	...	18	.....	475	.....	238	24	27	1,558	88	2	56	...	37	73	4	...	95	3	17	...	...	28	6	22	5	37	1	2,962
7 mo.	11	7	...	108	2	3,203	9	1,511	69	161	9,515	632	18	376	...	268	407	10	2	711	22	110	...	...	182	54	120	50	263	10	18,637
COLO....July	...	...	...	.....	.....	278	.....	27	16	5	279	31	...	46	...	1	...	...	...	4	...	7	...	...	...	.....	2	14	4	...	717
7 mo.	...	...	...	1	4	1,156	.....	250	28	16	1,385	181	1	243	...	11	1	...	1	44	3	14	...	...	...	.....	10	25	34	4	3,423
CONN....July	...	...	...	5	9	161	15	52	3	8	234	27	...	33	5	48	...	2	5	43	...	1	...	...	1	15	3	13	6	4	700
7 mo.	...	...	...	52	60	1,212	40	440	42	36	1,500	197	...	220	18	228	...	15	14	343	2	10	3	2	14	99	41	46	44	14	4,746
DEL.....July	...	...	...	2	1	57	.....	4	.....	.....	67	10	...	10	...	.....	...	...	...	1	...	...	...	...	...	.....	.....	1	.....	1	154
7 mo.	...	...	...	12	2	315	.....	35	1	1	428	57	...	69	...	4	...	6	...	28	2	4	...	...	1	1	1	2	11	1	982
D. C.....July	...	...	...	1	2	35	5	2	.....	.....	137	6	...	4	...	1	...	...	...	4	...	...	...	...	...	2	.....	3	14	...	219
Aug.	...	...	...	3	3	24	...	2	.....	1	83	13	...	6	...	2	...	...	...	2	...	...	...	...	...	2	.....	2	5	...	156
7 mo.	...	...	...	9	17	296	35	52	.....	2	782	40	...	33	...	43	...	3	8	26	...	1	...	...	10	20	.....	10	35	...	1,434
FLA.....July	...	...	...	.....	3	168	.....	19	.....	.....	351	10	...	17	...	1	...	...	...	8	...	...	...	...	...	.....	2	3	7	...	589
7 mo.	...	...	...	.....	19	985	6	82	3	2	1,781	42	...	101	...	23	...	5	...	40	3	...	...	...	...	.....	5	20	33	...	3,151
GA.....July	...	...	...	1	4	143	.....	14	2	.....	188	11	...	20	...	3	...	...	...	.....	...	...	...	...	...	.....	1	5	5	...	397
7 mo.	...	...	...	6	40	1,646	1	142	5	8	1,769	38	...	110	...	27	...	1	...	20	...	...	...	...	...	.....	7	28	56	2	3,910
IDAHO...July	...	...	...	.....	.....	75	1	10	2	.....	64	5	...	10	...	.....	...	...	...	10	...	2	...	...	...	.....	.....	2	4	...	187
7 mo.	...	...	...	.....	.....	413	1	70	3	1	399	28	...	79	...	15	10	1	...	34	1	13	...	...	...	.....	4	4	17	2	1,104
ILL.....July	...	...	...	12	14	796	91	159	28	10	1,170	49	2	206	...	31	...	1	3	46	1	4	...	...	10	3	4	52	23	3	2,788
Aug.	...	1	...	6	9	720	62	93	16	6	1,094	46	...	146	...	18	...	...	2	33	1	2	...	...	10	2	1	40	19	...	2,412
7 mo.	...	10	...	64	103	4,887	722	1,077	101	97	7,139	505	44	1,569	...	237	...	11	41	375	11	37	...	...	67	22	21	162	172	22	18,199
IND.....July	...	...	...	.....	36	418	9	72	6	6	694	46	...	75	...	.....	...	...	4	48	...	1	1	...	...	5	10	36	4	...	1,480
7 mo.	...	1	...	9	150	2,943	49	529	21	43	4,003	330	...	538	...	17	...	3	27	252	...	9	4	...	...	57	59	111	57	5	9,259
IOWA....July	...	...	...	.....	4	455	6	46	6	4	435	13	...	142	...	5	...	...	1	39	...	2	...	...	...	.....	1	1	33	5	2	1,207
7 mo.	...	...	...	1	29	3,177	15	332	45	18	2,246	98	...	929	...	34	...	...	11	203	3	20	...	...	...	1	15	86	23	6	7,327
KAN.....July	...	...	...	.....	7	1,891	3	139	34	.....	1,546	87	...	415	...	2	...	...	1	45	4	5	...	...	...	5	8	127	3	11	4,344
7 mo.	...	...	...	.....	16	3,624	18	455	53	4	3,294	227	...	879	...	8	...	...	2	128	9	8	...	1	...	6	29	174	25	20	9,019
KY.....July	...	...	...	.....	6	145	1	15	4	.....	186	10	...	33	...	5	...	...	1	11	2	...	1	...	...	.....	2	9	5	2	443
7 mo.	...	...	...	7	25	1,209	20	199	18	3	1,295	134	...	283	...	38	...	2	10	100	4	4	19	...	...	4	17	42	32	5	3,496
LA.....July	...	...	...	.....	6	326	.....	18	.....	.....	386	14	...	70	...	7	...	...	...	3	...	...	...	...	...	.....	.....	4	5	1	840
7 mo.	...	...	...	3	25	1,317	13	140	4	5	1,967	82	...	302	...	19	...	...	1	19	...	1	...	...	...	.....	1	17	35	3	3,957
ME.....July	...	...	...	1	2	167	2	38	1	.....	165	6	...	19	...	4	...	...	...	24	...	1	...	...	1	.....	2	3	1	2	446
7 mo.	...	...	...	6	7	1,133	11	195	13	1	1,298	46	...	62	...	15	...	...	...	135	...	10	...	1	4	.....	13	22	4	5	2,993
MD.....July	1	...	...	17	6	179	7	18	2	2	282	19	...	51	...	15	...	1	...	28	...	1	...	...	3	3	.....	5	15	1	689
Aug.	1	...	...	20	13	184	9	39	6	4	296	31	...	42	...	17	...	...	...	20	2	2	...	1	2	10	3	4	16	...	740
7 mo.	2	3	1	78	29	1,155	54	255	9	31	1,666	141	...	240	...	144	...	3	7	150	8	4	...	1	32	26	5	16	94	2	4,233
MASS.....July	...	2	...	20	23	293	27	113	26	17	601	87	...	69	4	34	...	1	...	82	1	2	1	1	24	13	4	10	20	2	1,489
7 mo.	46	19	...	168	132	2,256	93	838	126	100	4,576	527	1	502	31	304	...	15	4	290	53	10	5	11	124	63	35	68	182	14	10,958
MICH....July	3	...	...	3	4	621	.....	85	8	29	1,303	92	9	108	...	16	...	1	3	69	4	3	...	...	...	.....	1	41	5	3	2,429
7 mo.	33	...	...	40	28	4,895	45	701	104	153	8,293	589	27	749	...	93	...	15	10	549	12	25	2	...	...	1	34	152	68	22	16,814
MINN....July	1	...	...	.....	.....	339	3	48	8	11	471	28	...	95	...	4	...	...	...	25	...	1	...	...	...	.....	4	26	15	...	1,098
Aug.	2	...	...	.....	.....	421	2	38	12	7	555	22	...	123	...	9	...	...	...	27	...	1	...	...	...	.....	1	28	9	4	1,283
7 mo.	1	...	...	.....	.....	2,110	12	259	15	43	3,037	148	...	551	...	24	...	1	5	163	...	9	...	...	...	.....	23	87	53	9	6,582
MISS.....July	...	...	...	.....	3	350	.....	8	1	.....	368	7	...	41	...	1	...	...	...	2	...	4	...	...	...	.....	1	6	.....	...	792
7 mo.	...	...	...	.....	13	1,300	.....	55	5	.....	1,353	27	...	165	...	1	...	...	...	24	...	4	...	...	...	.....	1	7	.....	4	2,961
MO.....July	...	...	...	4	6	325	12	53	5	2	431	31	...	48	...	14	...	...	...	14	1	1	...	...	3	.....	2	26	5	...	988
7 mo.	...	...	...	28	82	3,416	173	628	37	88	3,977	404	...	689	...	111	...	34	4	200	12	18	...	...	17	8	35	149	69	4	10,313
MONT....July	...	...	...	.....	.....	51	.....	12	2	.....	131	4	...	27	...	.....	...	...	...	4	1	1	...	...	...	.....	2	3	4	...	242
Aug.	...	...	...	.....	.....	222	.....	28	14	8	299	9	...	91	...	4	...	...	...	16	4	3	...	...	...	.....	1	11	3	1	711
7 mo.	...	...	...	3	.....	636	.....	174	10	14	1,253	73	...	336	...	13	...	3	2	77	4	13	...	...	...	.....	5	17	28	12	2,686

Figures in this table are compiled by R. L. Polk & Company, of Detroit, except Illinois, which is compiled by the Automobile Sales Record Corporation, of Trenton. Readers desiring



BY MAKES AND STATES

Seven Months, and Partial Reports for August, 1929

		Acme	American La France	Atterbury	Autocar	Brockway-Indiana	Chevrolet	Diamond T	Dodge Bros.	Fargo	Federal	Ford	G. M. C.	Gotfredson	International	Larrabee	Mack	Moreland	Pierce-Arrow	Relay	Reo	Republic	Rugby	Schacht	Selden	Sterling	Stewart	Studebaker	Whippet	White	Willys-Knight	Total Sales by States Including Miscellaneous
NEB.	July	...	...	...	.....	.....	497	6	29	10	2	403	21	...	105	...	.....	...	...	...	7	1	5	...	...	...	.....	4	31	3	...	1,142
	7 mo.	...	...	...	.....	14	2,024	13	214	12	4	1,908	167	1	525	...	18	...	...	...	64	1	11	...	...	...	.....	19	51	26	2	5,110
NEV.	July	...	...	...	.....	.....	24	.....	8	3	1	80	4	...	5	...	1	2	...	...	1	...	2	...	...	...	.....	.....	.....	.....	...	131
	7 mo.	...	...	...	.....	.....	128	.....	100	7	1	288	15	...	18	...	3	12	...	...	6	1	2	...	...	1	.....	2	.....	6	1	604
N. H.	July	...	...	...	1	6	71	1	18	1	2	133	9	...	15	...	3	...	...	...	12	...	1	...	...	1	1	1	3	2	...	282
	Aug.	...	...	...	2	2	52	.....	11	.....	3	84	6	...	.....	...	1	...	...	...	6	...	.....	...	...	1	.....	.....	.....	.....	1	172
	7 mo.	...	...	...	3	26	540	5	104	9	8	750	49	...	47	...	16	...	1	...	61	...	4	...	...	2	13	6	16	6	2	1,673
N. J.	July	1	5	...	26	25	425	10	124	16	19	780	68	3	37	...	64	...	8	...	57	1	3	2	1	7	8	12	13	33	8	1,798
	7 mo.	6	28	...	158	159	2,985	54	606	100	113	4,350	380	13	285	7	430	...	59	15	396	11	29	15	13	61	45	77	103	202	31	11,161
N. M.	July	...	...	...	.....	1	141	.....	14	10	.....	122	3	...	32	...	.....	...	...	...	3	...	.....	...	...	.....	.....	.....	19	4	...	349
	7 mo.	...	...	...	.....	4	481	.....	76	15	3	426	30	...	86	...	.....	...	...	...	16	...	2	...	...	.....	.....	2	23	16	...	1,181
N. Y.	July	7	3	23	81	243	1,397	67	436	100	45	2,459	182	...	297	32	223	...	29	21	209	5	13	1	34	26	126	23	55	111	3	6,351
	7 mo.	32	148	81	391	1,130	7,539	393	2,076	370	188	11,138	911	2	1,358	136	1,095	...	169	72	972	11	57	18	108	119	504	104	265	553	29	30,529
N. C.	July	3	...	...	2	3	461	.....	50	6	.....	495	15	...	25	...	7	...	...	...	2	1	...	...	...	...	3	3	.....	8	...	1,091
	7 mo.	17	...	...	15	13	2,507	.....	338	14	10	2,482	144	...	140	...	42	...	...	...	42	6	13	...	...	...	9	11	28	31	1	5,920
N. D.	July	...	...	...	.....	.....	100	1	13	5	1	98	5	...	70	...	.....	...	...	...	2	...	...	...	...	...	.....	.....	1	.....	...	298
	7 mo.	...	...	...	.....	.....	714	5	80	6	4	796	69	...	558	...	.....	...	2	2	35	...	12	...	...	...	.....	2	18	4	7	2,329
OHIO.	July	9	...	...	27	36	608	7	126	20	13	1,074	85	...	168	...	19	...	2	3	61	1	3	10	...	9	4	13	62	48	4	2,455
	7 mo.	42	...	...	125	156	4,742	85	836	97	102	6,667	463	7	965	...	166	...	31	25	464	18	21	81	7	20	40	48	308	350	48	16,114
OKLA.	July	...	...	...	2	15	745	3	54	13	6	741	25	...	181	...	8	...	...	...	23	...	1	...	1	...	1	4	32	12	2	1,875
	7 mo.	...	...	...	5	48	2,836	21	439	43	53	3,290	150	...	681	...	37	...	1	2	119	2	3	...	18	...	10	22	110	58	6	7,977
ORE.	July	...	...	...	.....	.....	312	.....	30	6	14	437	22	...	61	...	13	8	...	...	23	1	12	...	...	8	.....	2	8	12	...	978
	7 mo.	...	...	...	1	.....	1,034	1	201	22	46	1,738	147	...	182	...	48	22	...	...	108	5	28	...	...	10	.....	15	16	69	...	3,744
PA.	July	7	1	...	69	38	716	19	223	37	19	1,195	80	1	134	2	51	...	...	10	87	...	5	...	3	35	32	8	54	54	5	2,922
	7 mo.	46	18	19	312	280	5,113	150	1,530	197	100	8,520	634	28	952	25	501	...	28	87	737	44	50	...	9	194	210	82	255	371	28	20,804
R. I.	July	...	1	...	3	1	68	.....	26	1	2	88	17	...	6	...	13	...	1	...	29	...	3	1	...	4	5	2	3	3	...	279
	Aug.	...	...	...	1	2	61	.....	23	4	.....	86	18	...	3	...	5	...	...	...	14	...	4	2	1	4	1	1	2	4	...	238
	7 mo.	1	3	...	40	7	453	4	187	22	34	539	111	...	49	...	59	...	4	...	156	...	8	6	...	12	24	7	10	22	1	1,772
S. C.	July	1	...	...	.....	16	200	.....	9	10	3	224	5	...	12	...	2	...	...	...	1	1	1	...	...	...	1	1	4	2	...	496
	7 mo.	2	...	...	.....	18	1,307	.....	114	18	31	1,265	55	...	104	...	12	...	...	...	13	2	3	...	...	...	3	2	10	10	...	2,977
S. D.	July	...	...	...	.....	.....	203	1	19	2	1	175	12	...	103	...	1	...	...	...	12	...	1	...	...	...	.....	3	10	1	1	547
	7 mo.	...	...	...	.....	1	769	8	105	9	2	789	54	1	508	...	8	...	...	...	78	...	11	...	...	...	1	5	18	5	7	2,387
TENN.	July	...	...	...	.....	2	328	.....	34	.....	3	326	21	...	33	...	10	...	4	...	9	1	...	...	...	...	.....	3	6	4	1	785
	7 mo.	...	...	...	.....	7	1,605	8	166	3	38	1,252	145	...	137	...	37	...	4	...	57	3	1	...	...	...	.....	15	13	30	3	3,542
TEX.	July	...	...	...	10	25	1,759	1	119	23	4	1,646	76	...	432	...	11	...	...	...	45	...	6	...	...	...	2	5	77	21	2	4,273
	7 mo.	...	5	...	51	80	8,160	31	734	69	31	7,967	418	...	1,767	...	70	...	4	24	284	...	32	...	...	...	9	38	181	132	10	20,159
UTAH.	July	...	...	...	.....	.....	53	.....	13	.....	.....	101	8	...	7	...	.....	...	...	...	5	...	2	...	...	...	.....	1	2	.....	...	192
	7 mo.	1	...	...	.....	.....	400	.....	106	5	2	767	22	...	75	...	23	3	...	...	32	...	12	...	...	...	.....	8	7	20	1	1,488
VT.	July	...	...	...	.....	1	33	1	7	3	1	49	5	...	15	...	18	...	...	...	3	...	...	...	...	...	.....	.....	1	2	...	142
	7 mo.	...	...	...	.....	16	342	1	109	20	18	536	44	...	168	9	29	...	1	2	69	...	3	...	...	...	9	7	11	14	5	1,422
VA.	July	...	...	...	.....	8	235	1	37	1	1	300	19	...	43	...	4	...	...	...	20	1	2	...	...	...	5	1	11	6	...	696
	Aug.	...	...	...	2	4	323	1	15	.....	5	368	10	...	39	1	5	...	2	1	12	9	1	...	...	...	4	6	7	12	...	827
	7 mo.	...	...	...	18	44	2,075	8	230	4	34	2,270	107	...	252	...	29	...	1	5	98	21	12	...	...	...	22	9	34	50	...	5,330
WASH.	July	...	...	...	.....	.....	337	.....	48	11	5	580	23	...	71	...	8	3	...	...	29	3	11	...	...	...	.....	5	15	24	1	1,211
	7 mo.	...	...	...	.....	.....	1,299	.....	309	27	23	2,514	178	...	263	...	35	22	3	3	156	9	36	...	...	...	.....	20	38	114	2	5,219
W. VA.	July	2	...	...	.....	8	202	3	45	2	3	260	18	...	48	...	.....	...	2	...	16	1	1	...	...	...	5	3	5	5	1	635
	Aug.	...	...	...	.....	9	200	5	25	2	6	232	16	...	36	...	.....	...	2	...	9	3	.....	...	...	...	.....	2	11	1	...	560
	7 mo.	5	...	...	1	29	1,099	19	213	9	14	1,309	100	...	255	...	4	...	11	...	97	2	6	1	...	...	13	9	15	19	6	3,253
WIS.	July	...	...	...	1	.....	499	15	64	10	8	746	39	...	121	...	5	...	2	4	54	...	3	...	...	17	8	2	35	8	1	1,662
	Aug.	...	...	...	.....	1	342	15	52	9	3	503	20	...	69	...	3	...	...	4	42	...	1	...	...	13	5	5	22	2	...	1,128
	7 mo.	1	1	...	2	4	2,992	148	398	40	68	4,595	230	...	664	...	31	1	8	59	203	4	16	...	...	86	51	31	102	52	16	9,959
WYO.	July	...	...	...	.....	.....	37	.....	18	.....	.....	75	1	...	11	...	.....	...	...	...	2	...	.....	...	...	...	.....	2	4	3	...	153
	7 mo.	...	...	...	.....	.....	188	.....	106	3	.....	392	12	...	59	...	2	1	...	...	16	...	3	...	...	...	.....	5	4	9	...	804
TOTAL..	July																															
Sales by Makes		35	14	23	306	571	18,056	318	2,815	478	275	24,503	1,469	17	3,741	43	692	86	54	56	1,326	34	132	17	40	177	254	175	908	564	61	57,946
TOTAL..	7 mo.																															
Sales by Makes		246	243	101	1,717	2,835	98,036	2,274	18,197	1,859	1,771	133,744	9,361	143	19,749	226	4,394	481	444	457	8,288	289	719	154	171	956	1,329	1,068	3,000	3,569	380	320,944

which is compiled by the Robinson's Advertising Service, of Springfield; and New Jersey, town and county lists of owners in any section may address any of these three companies.

SERVICING B. & B.

Multiple Spring Type Has No Adjustment Except at Clutch Pedal

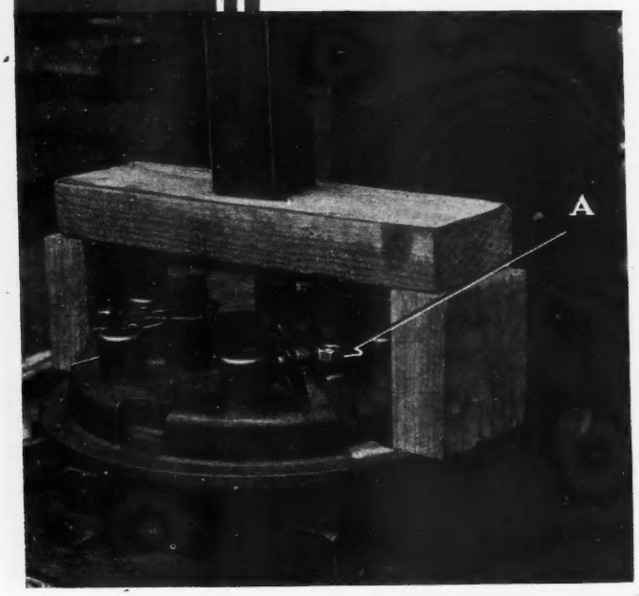


Fig. 1. To dismantle clutch cover assembly place pressure plate on a block of wood on an arbor press and compress the springs by use of two short blocks and a cross block, forming a bridge. While held in this position remove the three release pad screws. Then release pressure on springs gradually.

UNLIKE other Borg & Beck clutches, the R types have a number of small clutch springs and are not adjustable. The small springs operate directly against the pressure plate. Adjustment for wear, therefore, is made by adjusting clutch pedal or clutch pedal shaft.

As the clutch facings wear the pressure plate moves forward, i.e., closer to flywheel, and the outer ends of the release levers follow. This causes the levers and release bearing to move toward the transmission. The effect on the clutch pedal is to decrease the clearance between pedal and toe-board.

This clearance, which is the distance the pedal moves before the release bearing comes in contact with the release levers, should be from 1 to 1½ in.

To adjust the clutch, shift pedal until clearance is between 1 and 1½

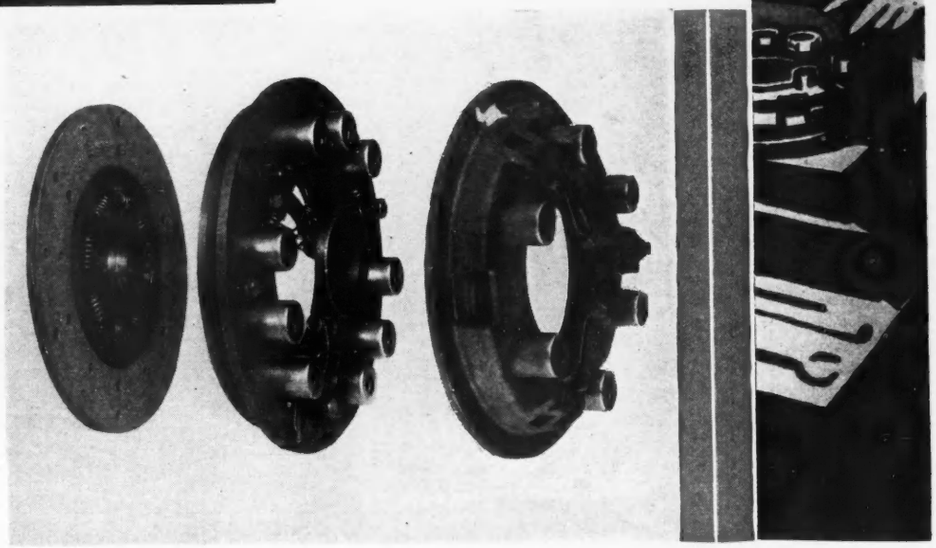
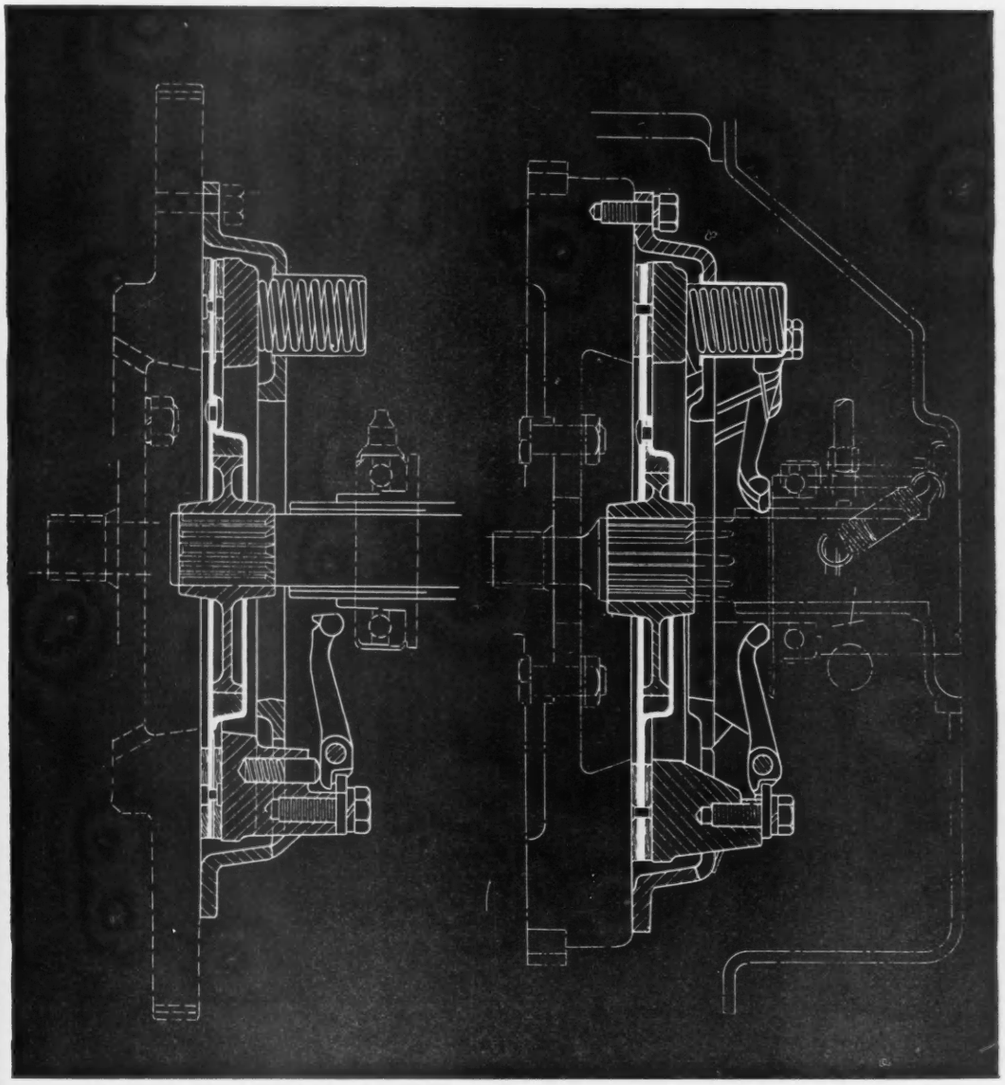


Fig. 2. Type R clutches, in center, are inclosed in recess in flywheel. Type RD, at right, have bell shaped cover which extends from flat surface of flywheel. Type 10R center plate is shown at left

TYPE R CLUTCHES



in. Then push pedal down until pedal pad touches floor board. If it does not move that far, making it necessary to spring pedal to touch the board, shift pedal down a little more.

To remove clutch from flywheel remove the six holding screws. The three release pad screws should be in place before removing the holding screws. Method of dismantling the clutch cover assembly is shown in Fig. 1. Worm levers should be replaced with new ones and should be renewed in sets, not singly.

When reassembling make sure that the release pad screws are tight, see "A" in Fig. 1. Chamfered end of hub of driven plate goes toward the outside.

Use a stub shaft to line up pilot bearings and driven plate before tightening clutch cover holding screws. When parts are lined up, tighten screws and remove shaft.

Do not allow transmission to hang in clutch assembly while assembling.

Cross sections of type 9 RD, at left, and 10 RD, at right. In type 9 R a graphite release bearing is used, mounted in a cup attached to pedal shaft yoke, and a release plate is attached to inner ends of release levers. In all others a ball bearing is mounted on a sleeve attached to transmission and contacts directly with release levers. Release is accomplished by moving the release bearing forward against the inner ends of release levers. These release levers are mounted on the clutch cover, the outer ends of the levers bearing against three release pads, which are bolted to the pressure plate. Springs and spring cups are assembled in the cover which bolts to flywheel. The springs are compressed between the spring cups and the pressure plate, thus providing the necessary driving pressure

Note: Service information given in this article is based upon factory recommendation. Adjustment of single spring types of Borg & Beck clutches will be discussed in an early issue.

AFTER HOURS

Taxation

Juggling phials of nitroglycerin is at all times a precarious occupation. Prof. M. H. Hunter, of the University of Illinois, tried it in his report on "The Taxation of Commercial Motor Transportation" to the National Tax Association. The corpse of his argument is on view on pages 18, 19 and 20 of this issue.

Theorizing in a vein odiously reminiscent of an ancient vintage of railroad propaganda that is vinegar today to every railroad executive who has his eyes on the very near future, the professor dragged forth the smelly red herring of "taxation equalization." He garnished it with arguments none too choice and the result was less an unappetizing feast than a Roman holiday. The professor was not able to present his report in person due to *alma mater* duties more pressing, and was thereby deprived of the opportunity of taking a seat on the mourners' bench.

This may sound a bit wrathful, but then it must be no more than Professor Hunter expected when he set forth with more courage than reason his observations that (1) the government is unintentionally subsidizing commercial motor transportation in its competition with railroad service; (2) there should be an equalization of competitive conditions between the railways and the motor carriers, and (3) that therefore taxes levied against all commercial motor vehicles should be increased to an amount equal to 14 to 16 per cent of their gross receipts.

Since, as Professor Hunter himself pointed out, truck taxes now can be estimated to equal 3 per cent of gross business, and bus taxes 6 per cent of gross, the enormity of the suggested increase makes it appear that the professor is proposing not merely a straw to fracture the camel's spinal column but a whole bale of hay to crush out his life immediately and spare him the suffering. (One can't be too grateful for such a humanitarian impulse.)

WHILE the red herring with its garnish was successfully harpooned, there still remains the danger that some minds in the audience may have been unduly impressed by Professor Hunter's theories and conclusions. In truth, it's a fact as well as a danger. One such mind was Professor Bullock of Harvard. During the informal discussion this worthy gentleman arose and, trembling with suppressed emotion, pointed the finger of scorn at those engaged on the highways in the business of truck transportation. He alluded to them as a tobacco-spitting bunch. (Or was it coterie?) And we gathered from his remarks that these tobacco-spitters are unmindful whose eye they hit, but that they dote on temporarily impairing the vision of defenseless women.

We had a lurking suspicion then that Professor Bullock was just a wee, teentsey-weentsey bit biased. By the time he had found his oratorical bearings our suspicion gave way to positive conviction with complete elimination of the diminutive qualifiers. In short order the professor was engaged in the popular activity of viewing with alarm, referring to truck transportation as "probably a parasite that may be furnishing a subsidized service," and declaring that "we don't know yet whether trucks and buses are giving cheaper or more expensive means of transportation." (As if overwhelming public acceptance didn't completely overshadow such dubity!)

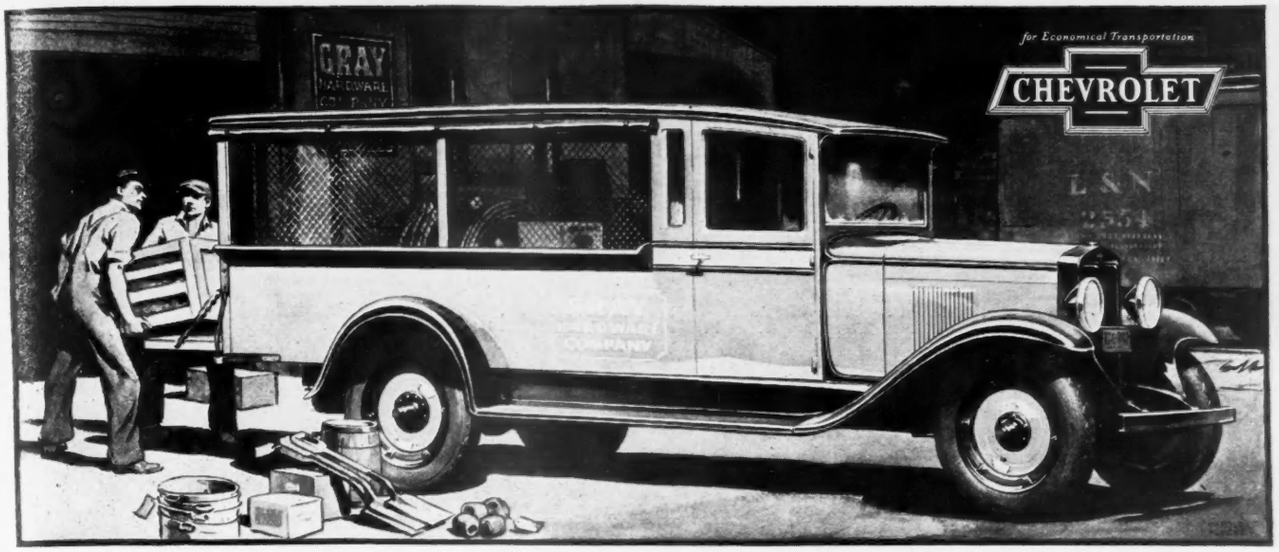
The acidity of the professor's remarks was counteracted somewhat because, by actual count, he repeated himself twice, and because Ed Loomis, Motor Truck Committee secretary of the N.A.C.C., rushed to the defense and masterfully twitted our pedagogic friend by introducing himself as one of the "tobacco-spitting gentry." That induced a gale of laughter—not because everyone knew Ed did not chew, but because the folks just couldn't hold back any longer. It was then we knew that in sowing the wind, Professor Bullock had reaped the whirlwind.

Aside from the danger, however, we feel the troublesome thing about this whole affair is not that Professor Hunter said this or that in his report to the National Tax Association, but that he had so little practical information on which to premise conclusions that would merit more respect and thoughtful consideration. He erred, of course, not merely in his failure to define exactly what he meant by such phrases as "commercial motor vehicles" and "motor carriers," but in trying to construct an argumentative dirigible out of so unsubstantial a commodity as soap. The net result, naturally, was a few bubbles which might have become the playthings of some legislators and tax officials, but which collapsed under slight pressure.

TO get the necessary practical information, there is real need for a thorough inquiry into truck and bus taxation. The variety of existing legislation is so considerable that it conclusively indicates uncertainty not only as to how commercial motor vehicles should be taxed, but also how much they should be taxed.

Several thousand theories are floating about on the flood of taxation philosophy that has deluged the country in recent years. Two seem to be holding their heads well above the swirling mess. One is "ability to pay," and the other is "public benefit," which more frequently is spoken of as "public convenience and necessity." The extent to which commercial motor vehicles are able to pay taxes and the extent to which such vehicles offer a service for which the public must be prepared to pay, to some extent at least, through provision for the construction and maintenance of the highways, are problems which must be given some solution before truck and bus taxation is on an equitable basis.

The National Tax Association is an agency better than any we can think of for making a thorough study, but we can think of better ways of doing it than—as is common practice—entrusting it to an inactive committee in which the brunt devolves upon the chairman. A thorough study involves the collaboration of all interested parties. The National Tax Association will, doubtless, continue the commercial motor vehicle taxation studies begun several years ago, but we hope the next report will not be made without the cooperation of the National Automobile Chamber of Commerce and operator associations.—G.T.H.



CHEVROLET TRUCKS

provide Dependable Service Remarkable Economy . . . Six-Cylinder Performance

The popularity of the new Chevrolet six-cylinder trucks continues to be one of the outstanding sensations of the automotive industry. And small wonder—for here are provided exactly those qualities which make a truck desirable.

Here is the finer performance of a great six-cylinder valve-in-head engine—which gives you the higher speed, greater smoothness and increased flexibility so necessary in modern traffic!

Here is dependability that keeps your truck on the job for month after month with the very minimum of servicing—made possible by years of development and more than a million miles of testing at the General Motors Proving Ground!

Here is overall economy that has amazed some of the most exacting fleet operators in America—for not only are these new six-cylinder trucks available in the price range of the four, but they actually use no more gasoline and oil than their famous Chevrolet 4-cylinder predecessors!

And, finally, here is perfect adaptability to almost every conceivable line of business—for leading commercial body builders have designed for Chevrolet trucks the widest range of body types known to the commercial car industry!

See your Chevrolet dealer today. He has a truck exactly suited to your needs—and it will give you a measure of service you never expected at such low cost!

CHEVROLET MOTOR COMPANY, DETROIT, MICHIGAN
Division of General Motors Corporation

Sedan Delivery ..... $595 Light Delivery Chassis ..... $400 1½ Ton Chassis ..... $545 1½ Ton Chassis with Cab $650

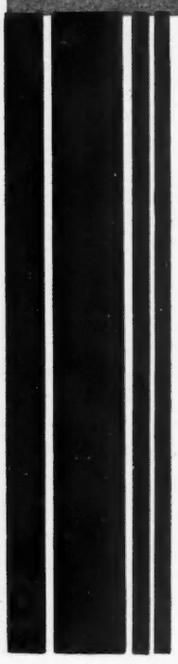
All prices f. o. b. factory, Flint, Michigan

A SIX IN THE PRICE RANGE OF THE FOUR!

KLEIBER 6-WHEELERS

Specifications of New Kleiber Models

Model	Black Panther	22DD	28DD	34DD	34DDT
Chassis price	$3,500	$5,000	$6,500	$7,500	$9,000
Chassis carrying capacity	6,500 lb.	11,000 lb.	15,000 lb.	20,000 lb.	18,000 lb.
Body weight allowance	1,200 lb.	2,000 lb.	2,000 lb.	1,500 lb.	2,000 lb.
Weight, chassis	6,800 lb.	9,000 lb.	11,000 lb.	12,500 lb.	14,000 lb.
Wheelbase, standard	190 in.	192 in.	201 in.	210 in.	215 in.
Tires, front, standard	34 x 7	32 x 6	34 x 7	36 x 8	40 x 8
Rear, standard	34 x 7-D	2 sets of duals	2 sets of duals	2 sets of duals	2 sets of duals
Engine	Cont. 16-R	Cont. 18-R	Cont. 20-R	Cont. 21-R	Buda GF6
Size	6—4 x 4½	6—4 x 4½	6—4⅛ x 4¾	6—4¾ x 4½	6—4¾ x 6
Valve arrangement	overhead	overhead	overhead	overhead	L-head
Number of main bearings	7	7	7	7	4
Carburetor, make	Stewart	Stewart	Stewart	Stewart	Stewart
Feed	vacuum	vacuum	vacuum	vacuum	vacuum
Ignition, make	Delco	Delco	Delco	Delco	Delco
Generator, make	Delco	R. Bosch	R. Bosch	R. Bosch	R. Bosch
Starter, make	Delco	Delco	Delco	Delco	Delco
Gasoline tank, capacity	28 gal.	28 gal.	28 gal.	35 gal.	35 gal.
Gasoline tank, location	under seat	under seat	under seat	under seat	under seat
Clutch, make and model	B/L 51	B/L 55	B/L 60	B/L 70	B/L 70
Clutch, type	multiple disk	multiple disk	multiple disk	multiple disk	multiple disk
Transmission, make and model	B/L 51	B/L 60	B/L 60	B/L 60	B/L 70
Transmission, where mounted and speeds	5—unit	7—amidships	7—amidships	7—amidships	7—amidships
Universals, make	Spicer	Spicer	Spicer	Spicer	Spicer
Rear axle, make and model	Timken	Timken SW100H	Timken SW200W	Timken SW300W	Timken SW400W
Final drive	bevel	worm	worm	worm	worm
Ratio, standard	6 4/5 to 1	7¼ to 1	8 2/3 to 1	9 2/3 to 1	10 1/3 to 1
Type	full-floating	full-floating	full-floating	full-floating	full-floating
Drive and torque	radius rods	radius rods	radius rods	radius rods	radius rods
Steering, gear, make	Ross	Ross	Ross	Ross	Ross
Steering gear, type	cam-lever	cam-lever	cam-lever	cam-lever	cam-lever
Service brakes, front wheel	Timken	Timken	.....	.....	.....
Type	internal	internal	.....	.....	.....
Size of drum	2¼ x 16 in.	2¼ x 16 in.	.....	.....	.....
Method of operation	hydraulic	hydraulic	.....	.....	.....
Service brake, rear wheel, make	Timken	Timken	air	air	air
Type	internal	internal	internal	internal	internal
Size of drum	17¼ x 4 in.	16 x 3½ in.	17¼ x 4 in.	17¼ x 4 in.	17¼ x 4 in.
Method of operation	hydraulic	hydraulic	air	air	air
Auxiliary operation	vacuum	vacuum	.....	.....	.....
Hand brake, make	Tru Stop	Tru Stop	Tru Stop	Tru Stop	Tru Stop
Type	disk	disk	disk	disk	disk
Size	16 in.	16 in.	16 in.	16 in.	16 in.
Springs, front, length, width, No. of leaves	38 x 2½—9	44 x 2½—9	44 x 3—9	44 x 3—10	44 x 3—10
Springs, rear, length, width, No. of leaves	52 x 3—13	60 x 4—15	60 x 4—16	50 x 4—17	60 x 4—18
Auxiliary springs	40 x 3—4	.....	.....	.....	.....
Wheels, type	cast steel	cast steel	cast steel	cast steel	cast steel
Length, dash to center of rear axle	150 in.	148 in.	160 in.	172 in.	180 in.
Length, dash to end of frame	204 in.	210 in.	222 in.	222 in.	238 in.



A NEW heavy-duty line of six-wheel trucks, comprising four models with capacity ratings ranging from 11,000 to 20,000 lb., and a new four-wheel 2½-ton speed truck are offered by Kleiber Motor Co., San Francisco. The four-wheel drive units of the six-wheel models are Timken-Detroit worm-driven tandems, which were described in detail in the May issue of COMMERCIAL CAR JOURNAL AND OPERATION & MAINTENANCE, pages 38 and 39. While varying somewhat in capacity, speeds and assembly all models are equipped with six-cylinder engines, five or seven-speed transmissions, four-wheel brakes and pneumatic tires.

Continental R engines in graduating sizes are used in all models (see May, 1928, issue, page 25), except in Model 34DDT where a 4¾ x 6-in. Buda GF6 is employed. Stewart vacuum-fed carburetors and Delco-Remy ignition and starting are used throughout. The Robert Bosch generator is used in all models except the 2½-ton Black Panther chassis where a Delco-Remy unit is employed.

Brown-Lipe multiple disk clutches and transmissions are common to the entire line, but the gearset in the speed model is unit mounted and provides five speeds, whereas seven-speed amidships mounted units are used in all the six-wheel trucks. Full-floating type rear axles are standard in the line, the four six-wheel models incorporating tandem-drive Timkens and the light model a Timken bevel. (See table for ratios.) Radius rods are used in all cases. Other units included in all models are: Cellular radiators of Kleiber make, Spicer joints, cast steel wheels, H. W. oil filters, Ross cam-and-lever steering gears and United air cleaners.

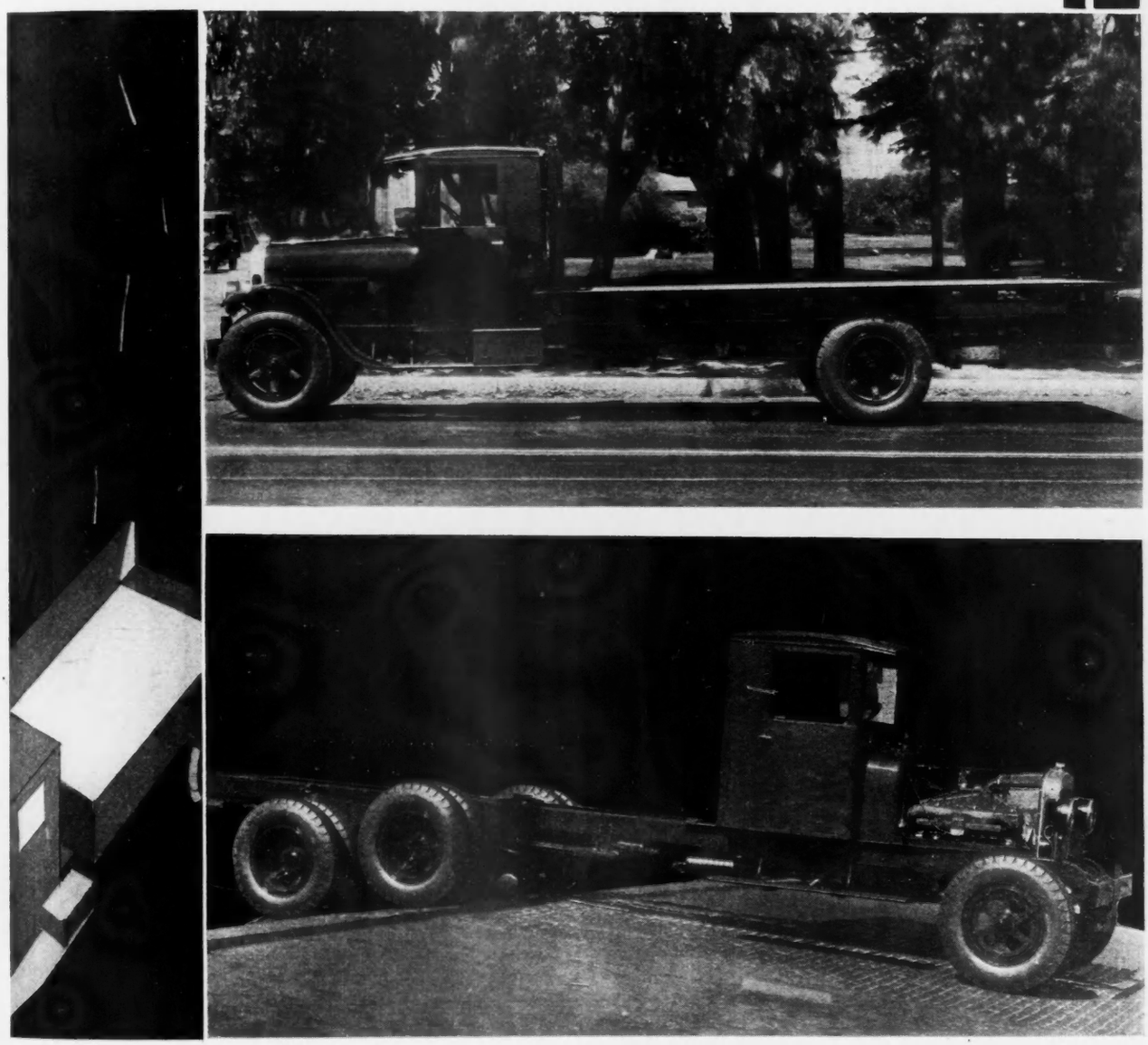
Timken internal service brakes are standard on all models, being

RATED UP TO 10 TONS

New Models Include 2½-Ton Speed Truck Priced at $3,500. Six-Cylinder Engines and Four-Wheel Brakes Used Throughout

hydraulically operated on all four wheels of the speed truck and on all six wheels of Model 22DD and Westinghouse air-operated on the three remaining models. The service brake on Model 22DD is actuated by a vacuum amplifier. Tru-Stop 16-in. disk brakes mounted on the propeller shaft are employed on all models for hand braking.

Springs are pin-shackled to the frame. All spring ends are shackled except the front ends of the front springs. Rear springs of the speed truck are equipped with four-leaf auxiliaries.



Below: The Black Panther, Kleiber's new 2½-ton speed truck. Bottom: View of a six-wheel Kleiber coming over the crest of a hill showing action of the four-wheel unit

FLAT RATE PRICE LIST NUMBER 34

CHEVROLET TRUCK

Hose

5. Top hose, renew
   All models $0.60
6. Lower hose, renew
   All models ..... .60

Fan

8. Belt, renew
   All models $0.40

Water Pump

11. Water pump and fan assembly, overhaul
   All models $3.50
13. Packing, renew
   All models ..... .75

Manifolds

1. Inlet to cylinder gaskets, renew
   All models $0.60
2. Exhaust to cylinder gaskets, renew
   All models ..... .60
3. Manifold gaskets, intake and exhaust, renew all
   All models 1.10
4. Manifold to exhaust pipe gasket, renew or repack nut
   All models 1.25

Fuel System

6. Carburetor, remove and replace
   4 cylinder models $0.90
   6 cylinder models 1.25
7. Carburetor, remove, disassemble and clean and reinstall
   4 cylinder models 1.60
   6 cylinder models 2.75
8. Carburetor choke wire, renew
   All models 1.00
9. Gas tank, remove, clean and reinstall
   4 cylinder models 2.25
   6 cylinder models 3.00
10. Gas tank and lines, clean by blowing out with air
   All models 2.00
11. Vacuum tank inner assembly remove, inspect and reinstall
   4 cylinder models 1.00
11a. Fuel pump, remove, inspect and reinstall
   6 cylinder models ..... .75

Muffler

12. Muffler, remove and reinstall or renew
   4 cylinder models $1.60
   6 cylinder models 2.00
14. Tighten muffler, tail pipe and exhaust pipe
   All models 1.00
14a. Same when bolts are frozen
   All models 2.00

Engine Combinations

1. Remove cylinder blocks, regrind and replace, includes: renew all pistons, pins and rings, align rods, adjust main bearings and refit rod bearings, renew tappet assemblies, rebush rocker arms, renew timing gears, renew valves and guides, clean carbon and grind valves, clean oil lines, overhaul oil pump, water pump and distributor, renew high tension wiring, clean and tune engine
   4 cylinder models $70.00
   6 cylinder models 78.00
2. Hone or bore all cylinders without removing blocks, renew all pistons, pins and rings, align rods, adjust main bearings and refit connecting rods, repack water pump, clean all oil lines, grind and reface valves and seats, tune and clean engine
   4 cylinder models 38.00
   6 cylinder models 51.00

NOTE

Prices for Chevrolet delivery cars and trucks are continued from the September issue. Unless otherwise noted, prices apply to K, V, AA, AB and AC series cars and LM, LO and LQ trucks.

Operations and prices for four-cylinder cars are based upon the Rapid Flat Rate and Repair Data Book, published by Chilton Class Journal Co. Six-cylinder engine prices were compiled by Book Department, Chilton Class Journal Co.

Final instalment of Chevrolet prices will appear in an early issue.

3. Renew piston pins and rings, align rods, adjust main bearings and connecting rod bearings, grind and reface valves and seats and tune engine
   4 cylinder models 21.85
   6 cylinder models 28.00
4. Renew piston pins, align and adjust connecting rods, grind and reface valves and seats and tune engine
   4 cylinder models 17.00
   6 cylinder models 22.00
5. Renew rings, align and adjust rods, grind and reface valves and seats and tune engine
   4 cylinder models 16.20
   6 cylinder models 20.50

Clutch

1. Adjust pedal clearance
   6 cylinder models $0.60
2. Clutch, clean leather and adjust
   B & F series 1.50
3. Clutch assembly, remove, disassemble, reassemble and reinstall, includes replacing any defective parts
   Models late V, AA and AB.. 6.00
   K, early V and 6 cyl. models 5.15
4. Clutch release bearing, renew
   Models late V, AA and AB series 5.00
   K, early V and 6 cylinder cars 4.00
9. Renew clutch collar
   B & F series 1.50

Flywheel

11. Flywheel, remove and replace or renew
   Late V, AA and AB series.. $7.50
   Early V and 6 cylinder models 6.00

Transmission

1. Transmission assembly, remove and replace
   All models $5.80
2. Drain, clean, inspect and refill
   All models 1.75
3. Overhaul, including control assembly
   All models 13.80
4. Control assembly only, overhaul
   All models 2.25
5. Transmission case only, renew
   All models 12.80
6. Transmission overhaul when transmission is out
   All models 8.00
7. Clutch shaft renew when transmission is out
   All models 1.10

Universal Joints and Shaft

1. Universal joint, front overhaul
   All models $4.00
6. Propeller shaft, remove and replace or renew
   Delivery chassis 5.25
   Truck chassis 9.50

Rear Axle

1. Assembly, remove and reinstall
   Delivery chassis and truck... $3.00
2. Axle housing, only, renew
   Delivery chassis 8.50
   Truck chassis 9.00
3. Assembly, overhaul
   Delivery chassis 12.50
   Truck chassis 14.00
4. Axle shaft, remove and replace or renew one
   All models 1.60
4a. Same operation when shaft is stuck in gear mounting
   Delivery chassis 3.20
   Truck chassis 4.50
5. Differential carrier assembly, overhaul. Includes pinion and ring gear
   Delivery chassis 10.00
   Truck chassis 11.00
6. Differential carrier remove and reinstall
   All models 5.00
7. Ring gear and pinion, adjust
   Delivery chassis 3.50
   Truck chassis 3.50
8. Ring gear and pinion, renew, when differential carrier is out
   Delivery chassis 3.00
   Truck chassis 3.50
9. Ring gear and pinion only, renew
   Delivery chassis 8.00
   Truck chassis 9.00
11. Remove rear cover, wash out, inspect gear, refill and replace cover
   All models 1.80

Springs

1. Clips (U-bolts) tighten all
   Delivery chassis $1.50
   Truck chassis 1.75
2. Clip (U-bolt), renew one
   Front, all models 1.50
2a. Clip (U-bolt), renew one
   Rear, delivery chassis 1.50
   Rear, truck chassis 1.75
3. Adjust side play on all shackles
   Delivery chassis 1.00
   Truck chassis 1.75
4. Renew all shackle links, spring and bracket bolts and bushings on all springs
   Delivery chassis 9.25
   Truck chassis 10.50
5. Center bolt, front, renew
   All models 1.10
6. Center bolt, rear, renew
   Delivery chassis 2.00
   Truck chassis 2.25
6a. Center bolt to bracket, renew
   B & F series 1.00
7. Springs, front, remove and replace or renew
   All models 1.80
8. Springs, rear, remove and reinstall or renew
   Delivery chassis 2.60
   Truck chassis 3.00
9. For each frozen spring bolt add
   All models 1.80
11. Adjust spring seats
   All models 2.00

Ignition

1. Breaker points, clean and adjust
   All models $0.40
2. Breaker points, renew. Includes synchronizing and retiming
   All models ..... .90
3. Points reface, synchronize, retime and clean spark plugs
   4 cylinder models 1.50
   6 cylinder models 1.80
4. Ignition unit, remove and reinstall or renew
   All models 1.20
6. Plugs, clean and adjust all
   4 cylinder models ..... .60
   6 cylinder models ..... .80
7. High tension cables, renew all
   4 cylinder models 2.00
   6 cylinder models 2.70

SERVICE HINTS

From Shop and Factory

Ford Valve Guide Bushings

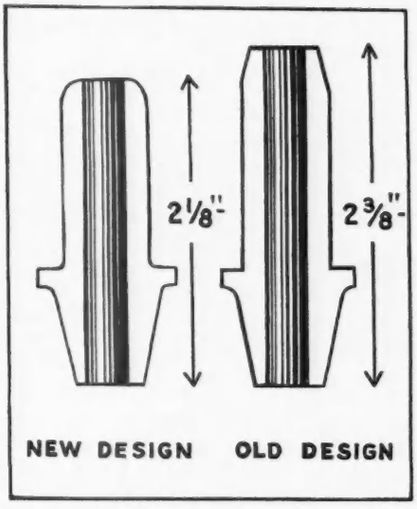
Model A Ford valve guides have been shortened from 2⅜ to 2⅛ in., and the end instead of being tapered is now formed with a radius of ⅛ in. Both old and new guide bushings are shown in the accompanying illustration.

The purpose of the change is to lessen the chance of valves sticking. The new guides are interchangeable with the old pattern.

$5

Ideas for Service Hints from shop men are welcome. Tell all about the idea in shop terms and send drawing or photograph. Five dollars will be paid each successful contributor.

New and old designs of Ford valve guide bushings for Model A engines



Screw Holder

A simple device for holding small screws in a vise, while cutting them down or filing threads, is recommended by Frank Bentley, Jr., Missouri Valley, Iowa. A groove is cut on two opposite sides of a nut, which will fit the bolt, deep enough to hold a piece of iron wire. After the grooves are cut and the wire is in place rivet the sides of the nut over on the wire. Then saw the nut in two passing through the threaded hole.

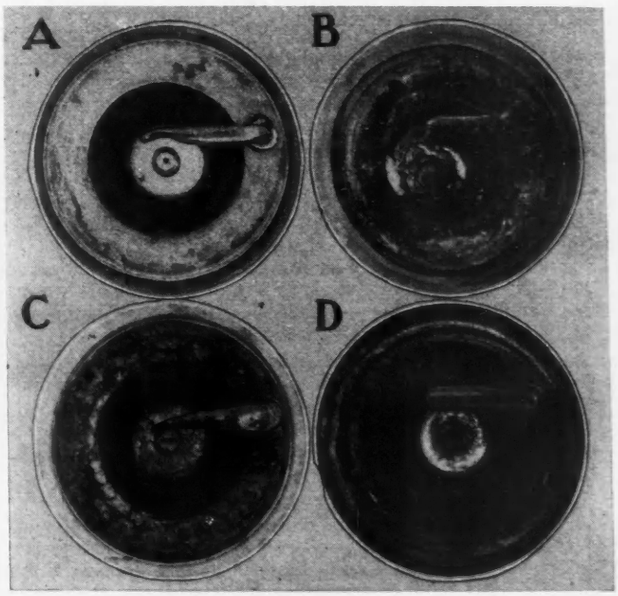
The threads of the nut, of course, mesh with those of the screw and the sides of the nut extend beyond the head of the screw. The nut can be held securely in a vise without marring the threads by placing the device on the nut as shown and clamping the edges of the nut in the vise jaws.

Spark Plugs

Modern engines with high compression and comparatively high speeds cannot give best performance with spark plugs in poor condition. Not only must the plug used be adapted to the engine and the service in which it is used but the plug must be kept up to standard.

Hector Rabezzana, AC Spark Plug Co., recommends the following method for cleaning plugs. Fill plug cavity with alcohol, liquid metal polish or a solution of equal parts of ammonia and water and let it stand for a minute. Then clean the carbon from insulator with a stiff wire or a stick of wood covered with a single thickness of cloth. Clean the points with fine emery cloth and adjust the gap.

Four common conditions found in spark plugs after continued service are shown in the accompanying photograph.



Above: A handle for small screws. Right: Four spark plugs which should be replaced. A; side wire worn opposite center electrode giving too wide gap. The gap can be closed but thin side wire will not last long. B; insulator melted by hot gases blowing through leak in threads caused by not tightening plug in engine. C; this plug is ready for retirement. D; center wire burned away because plug is not adapted to heat conditions of engine in which it was used

¾-TON DODGE AT $655 COMES IN SIX BODIES

New Four Has 124-in. Wheelbase and 4-Wheel Hydraulic Brakes

Specifications of Dodge Brothers New ¾ ton, 4-cylinder Model

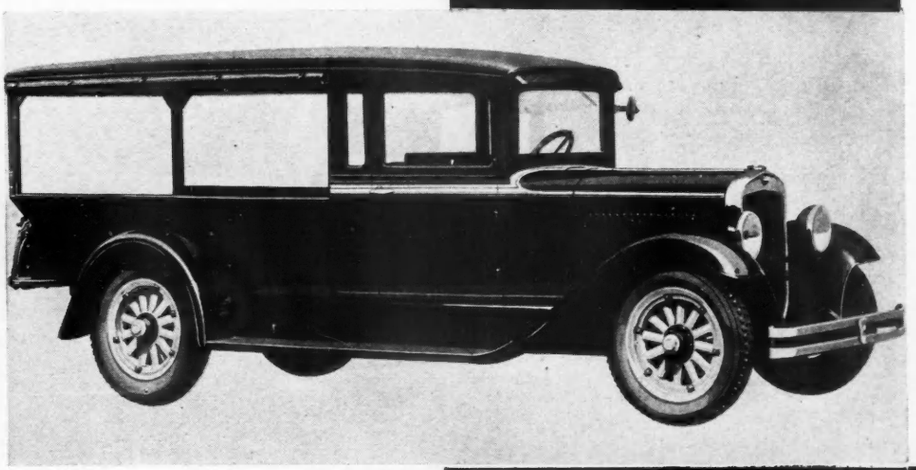
Capacity	¾ ton
Price	$655
Chassis weight	2260 lb.
Wheelbase	124 in.
Tires	5.50/20 balloon
Engine, size	4—3⅝ x 4¼ in.
Displacement	175.4 cu. in.
H.P.	45
Compression ratio	4.6 to 1
Oiling system	Pressure
Number main bearings	3
Carburetor	Carter
Feed	Byrne-Kingston Oil-Vac
Gasoline tank, location	Under seat
Capacity	15 gal.
Radiator, make	Fedders
Starting, lighting and ignition	Delco-Remy
Clutch, make	Borg & Beck
Type	Plate
Transmission, make	Warner gear
Speeds and mounting	3—unit
Universals, make	Spicer
Rear axle, make	Own
Drive	Bevel
Type	Semi-floating
Steering gear	Hannum
Service brakes	4-wheel internal Hydraulic
Drum size, front	14 x 1¾ in.
Rear	15 x 2 in.
Hand brake, location	Propeller shaft
Drum size	8 x 2 in.
Length cab to rear of frame	66⅞ in.
Cab to rear axle	31 in.

ADDITION of a new ¾-ton, 4-cylinder model to the truck line of Dodge Brothers has been announced by the company. The new truck having a wheelbase of 124 in., 4-wheel internal hydraulic brake and improved features in appearance and performance will sell at a new low chassis price of $655 f.o.b. factory, or $100 below the price of its predecessor.

Coincident with the announcement of this new model, the company further adds that in addition to general improvements the Dodge Brothers ¾-ton, 6-cylinder model is being furnished in longer wheelbases with no advance in the f.o.b. chassis price of $775. The complete Dodge Brothers truck line now includes three capacities of 4-cylinder trucks, namely, ½, ¾ and 1-ton capacities, and five capacities of 6-cylinder trucks, ranging from ¾-ton to the heavy duty 3-ton type. The line provides 12 different wheelbases, 16 chassis types and 46 different body styles.

The new ¾-ton, 4-cylinder truck is available in six body styles, panel, canopy, screen, express, stake and platform. It is powered by a 3⅝ x 4¼ in. engine capable of developing 45 hp. Full force pressure lubrication is employed to all main, connecting rod and camshaft bearings. Three main bearings having a total area of 43.3 sq. in. carry a statically and dynamically balanced 41-lb. crankshaft. All bearings are removable and are bronze-backed and babbitt-lined. Gasoline feed is by vacuum but the system is operated from the oil pump so that fuel automatically stops when the oil supply is dangerously low. This system is known as the Byrne-King-

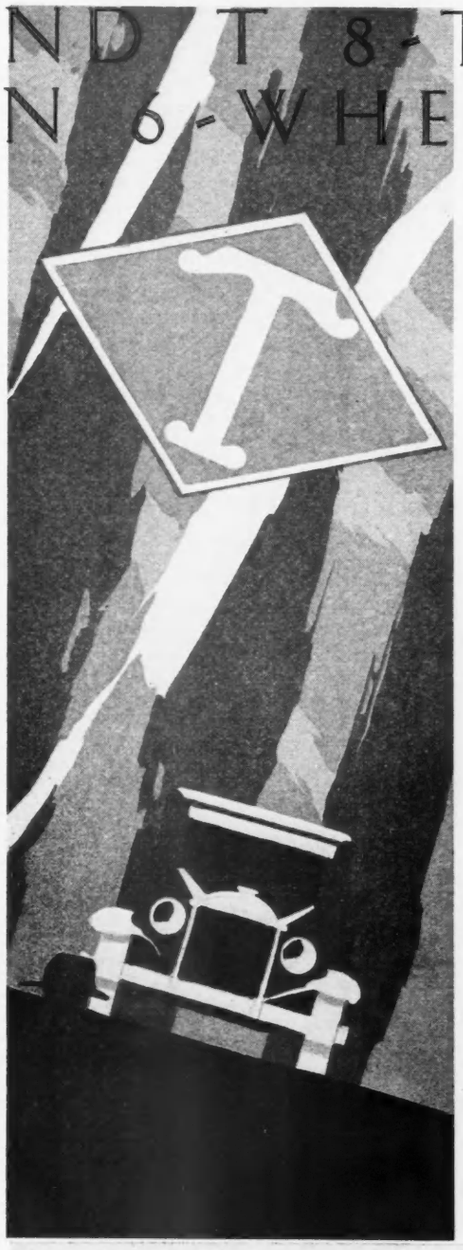
(Turn to page 78, please)



New ¾-ton Dodge Brothers model equipped with a canopy top express type body

DIAMOND T 8-TON HAS TIMKEN 6-WHEEL UNIT

Optional Rear Axle Ratio Gives Speed Choice of 25 or 35 M.P.H.



THE Diamond T Motor Company has announced the addition of a new 8-ton chassis to its six-wheel line. This new job, designated as Model 1600, is a complement of the 4-ton, Model 800, recently announced.

The new model, offered in two standard and several optional wheelbases, is equipped with a 6-cylinder Hercules engine, 7 speed Brown-Lipe transmission, Timken worm 4-wheel drive unit and 4-shoe Timken duplex internal brakes hydraulically operated on all four driving wheels.

While this model is governed to operate at a maximum speed of 25 m.p.h. this speed can be increased to 35 m.p.h. by the use of an optional rear axle ratio. The standard ratio is 9 1/3 to 1 and the optional 7¼ to 1. All four drive wheels are equipped with 30 x 8 in. dual pneumatic tires. Details on the Timken tandem unit, which makes use of worm drive in both axles, may be obtained from an article which appeared in the May issue of *Commercial Car Journal*, pages 38 and 39.

While capable of developing 106 hp. at 2200 r.p.m., the Hercules 4⅝ x 4¾ in. engine used in this job is governed down to 1800 r.p.m. at which point it develops 98 b. hp. A Hall-Winslow oil filter is a built-in feature. Pistons are cast iron and fitted with four rings, all above the pin. Valves are of the mushroom type. Both the idler and camshaft are adjustable from the outside for end play.

Radiator cores are of the copper fin and crimped flat tube type which are carried in a shell built up of four castings spring mounted on the frame.

The transmission is a *(Turn to page 78, please)*

Specifications of Model 1600 Diamond T

Model	1600
Base price	$7,500
Capacity	8 ton
Wheelbase, standard	174 in.—190 in.
Optional	180-200-210 in.
Tires, front	36 x 8 in.
Rear	36 x 6 in. dual
Engine, make	Hercules XXC-2
Size	6—4½ x 4¾
Hp. at 2200 r.p.m.	106
Valve arrangement	L
Number main bearings	7
Size	3 in.
Piston material	Cast-iron
Carburetor, make	Zenith
Feed	Gravity
Ignition and starter	Auto-Lite
Gas tank, location	Under seat
Capacity	30 gal.
Radiator, type	Fin and tube
Clutch, make	Covert
Type	Multiple disk
Transmission, make	Brown-Lipe 70
Size and mounting	7—amidships
Universals	Blood Bros.
Rear axles, make	Timken SW-300
Drive	Worm
Type	Full-floating
Ratio, standard	9 1/3 to 1
Ratio, optional	7¼ to 1
Steering gear	Ross
Service brake, make	Timken 4-wheel 4-shoe internal Duplex
Method of operation	Hydraulic
Auxiliary operation	B-K Booster
Hand brake, make	Tru Stop
Type	2-shoe disk
Springs, size, front	46 x 3 in., 11 leaves
Rear	50 x 4 in., 17 leaves
Frame, size	9 x 3¼ x ¼ in.
Length, dash to c/axle	94¾—110¼

Showing how the new Diamond T 8-tonner takes the twist of rough going

TRUCK TAXES

(Continued from page 20)

be $41,250,000 instead of the $67,500,000 computed by the author, and the percentage of gross bus receipts would be 5.7 per cent instead of 10 per cent."

Also commenting upon the Hunter report by letter, F. D. Howell, chairman of the Taxation Committee of the California Motor Carriers Association, labeled as "far-fetched" any attempt to compare right-of-way and highway maintenance costs.

"The tremendous cost of maintaining the roadbed for rail transportation," he stated, "is offset by the reduced cost of such transportation. In other words, after spending all this money for maintaining a railroad roadbed, the railroad can then handle a whole train for $1.50 a train mile, the capacity of the train being limited only by the power of the locomotive and grades encountered. You may assume that this $1.50 cost per mile is the cost of moving 1000 tons one mile (this is very low), whereas the motor carrier in common carrier service would be moving seven tons one mile at say $1.25, or, where the rail line moved 1000 tons for $1.50, the motor carrier would move but 42 tons for $1.50.

"That this excessive cost of motor vehicle balances the excessive cost of maintenance on railroads is evidenced by the fact that the motor carriers, both passenger and freight, are operating practically on competitive rates with the rail lines, and neither the rail lines nor the motor carriers are earning excessive profits."

Among the points brought out in oral discussion were general statements to the effect that "taxes are not levied to equalize the cost of doing business," and that "it is false principle to arrive at equalization as Hunter does."

The scope of Professor Hunter's report included a discussion of methods of levying taxes on commercial motor vehicles. In this regard he indicated the registration license should be of an amount sufficient merely to defray regulatory costs; that the gasoline tax seems to be the most logical and justifiable means of raising highway construction and maintenance revenue, and that the commercial motor vehicle should be recognized as a *business entity* and as such subject to taxation.

"As a protection to person and property," said Professor Hunter in his report, "every state requires the registration of motor vehicles, those operated for commercial purposes as well as others. The regulatory feature here involved, however, cannot justify the size of the charge made in many states. The record of ownership, type of car, etc., could be secured just as readily by charging a fee just large enough to cover the cost, or by making no charge at all, for that matter.

"In some states the element of protection to highway has been the basis used for calculating the fee charge. Thus there is some relation between size of tire, type of tire, weight of vehicle, number of wheels and highway depreciation. . . . . It is such factors that should be taken into consideration in the determination of the size of the fee to be levied upon motor carriers to legalize their use of the highways.

"Some surplus above costs of administration may result from the use of regulatory fees. This may well go into the highway fund, although any surplus should be incidental rather than predetermined. If it be decided to have the motorist contribute to a special fund for highway construction and maintenance, which decision is definitely established, some other basis than the fee should be used. The tax upon gasoline seems to be a happy as well as logical and justifiable solution of this problem.

". . . The use of the fee and gasoline tax takes cognizance only of the commercial motor vehicle as any other motor vehicle; it does not recognize it as a business entity and as such subject to taxation. The real problem of taxation of the commercial motor carrier, in distinction from other motor vehicles, lies in the amount of taxes to be levied upon it as a business, and in the method of levy. Commercial motor transportation is a business just as the business of manufacturing, farming or merchandising and should be called upon to contribute its share to the general revenue fund. The first problem is to decide how much this shall be in addition to the amount already paid in fees, property and gasoline taxes. These payments must be considered as having been made for the common good, for there can be no other justification for the construction, maintenance and operation of highways."

The report thereafter indicated the methods already used in levying taxes upon buses and trucks as a business, Professor Hunter arriving at the conclusion that "the methods most in favor are levies upon gross earnings and upon passenger ton miles. An examination of the possible methods leads one to conclude that, from the standpoints of justice and administration the tax on gross earnings is the most desirable. It can easily be adjusted to make the variable element in arriving at the total tax burden. Calculations can be made from reports required to be furnished at the time application is made for a license. Accuracy of reports can be approximated by provision for revocation of license should any discrepancies occur, while to keep a record of gross receipts imposes no appreciable burden upon the operator."

In a formal discussion of this portion of the Hunter report, Prof. James W. Martin, director of the Bureau of Business Research, Univ. of Kentucky, said:

"Aside from the suggestion that the motor registration license be relegated to the position of a mere regulatory fee and that any surplus revenue above the cost of administration 'should be incidental rather than predetermined,' the able report of the committee may be accepted without serious reservations by students of highway finance. Even that recommendation may be wise in some states, but many who are viewing the country as a whole will agree with the original committee of the National Tax Association on highway finance that the registration fee is properly an important source of revenue. Some of the reasons for arguing with the earlier committee are as follows: (1) Many states cannot reasonably raise adequate revenue by means of the gasoline tax alone. Kentucky and South Carolina, for example, would find themselves severely handicapped if they had to rely for motor vehicle revenue on what their already high gasoline tax rates produce. (2) The motorists are willing to pay a registration tax in addition to a fuel tax to the end that roads may be improved. (3) The gasoline tax imposes an inadequate share of road financing cost on those—especially in northwestern states—who use their vehicles rarely although at times when the roads must accommodate 'peak loads.' (4) The gasoline tax, although doubtless the best single highway impost, is not adequately graduated in proportion to the sizes of vehicles. A 7-ton truck, many times as destructive to roads as a 3-ton vehicle, for example, will use only 30 to 60 per cent more gasoline. (5) As the committee suggests, a gas tax does not take adequate account of tire equipment. (6) The fact that the registration tax now yields the states about a third of a billion dollars without serious objection from those who pay it, is substantial evidence of its favor."

The minority report while tacitly concurring with Professor Hunter in regard to the gas tax and a registration fee for regulatory purposes only, objected to his taxation-as-a-business feature by finding fault with his failure to "define the terms and to indicate any practical method of isolating business use of 'business vehicles' for tax purposes."

"Except in the cases of buses," the minority group contended, "the state governments are in continual difficulty in attempting to measure and assess such business use. The time will come, and may be at hand, when commercial motor transportation may have sufficiently developed to justify taxation methods more exact in their measurement of road use, or of business benefit, if the latter theory is tenable."

In his correspondence commentary Mr. Fairbanks, of the U. S. Bureau of Public Roads, declared, "the two taxes (registration and gasoline) may well be regarded together as means of rais-

(Turn to page 60, please)

STEWART EXTENDS LINE WITH 5-7 TONNER

Two-Speed Auxiliary and Four-Speed Transmission With Overdrive on Model 27X

RANGE of capacity of the Stewart line has been increased by addition of Model 27X, which is rated five to seven tons. The engine is a six-cylinder Waukesha 4⅜ by 5⅛ in., mounted in rubber both front and rear. Transmission is a dual unit consisting of a two-speed auxiliary bolted to the bell housing of the engine and a four-speed amidships unit mounted in rubber, like the engine. Rear axle is a Timken full-floating worm type, rated at 25,000 lb. at the tires.

Standard ratio of the rear axle is 10 to 1. Engine to wheel ratios with the auxiliary in low are: first, 93.8 to 1; second, 47.3 to 1; third, 29.2 to 1; fourth, 21.8 to 1. Auxiliary in high range gives ratios of 32.1 to 1 for first, 16.2 to 1 in second, direct in third and 7.5 to 1 in fourth. Reverse ratios are the same as corresponding first gears.

Radiator, which is mounted on rubber, has cast top and bottom tanks and side members and top tank are polished aluminum. Core is composed of vertical tubes with cooling fins. Circulation is controlled by thermostat.

There are four universal joints on standard models, a Spicer 2⅝-in. tubular shaft from transmission to rear axle and a short shaft between auxiliary and main transmissions. On long wheelbase models an intermediate shaft and joints are incorporated in the drive line.

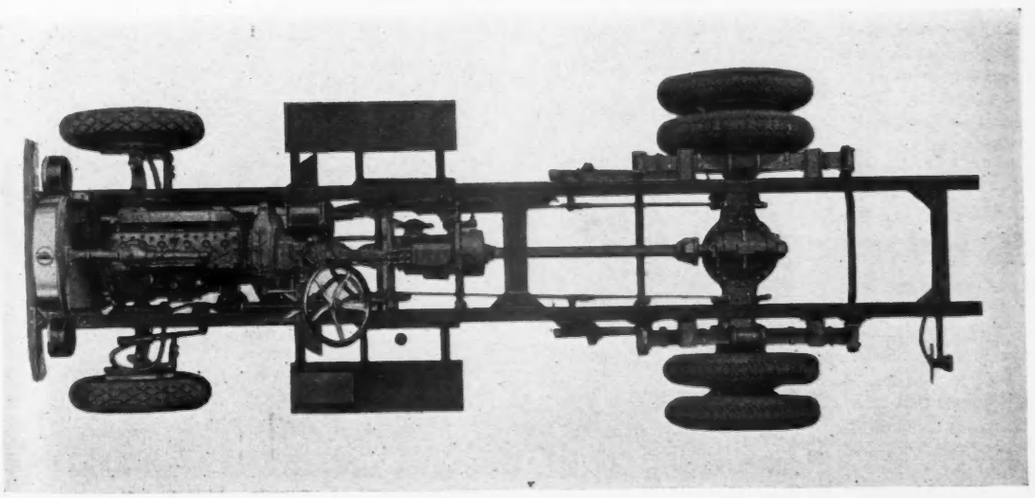
Brakes are four-wheel mechanical type with vacuum booster, the latter being mounted on right side of clutch housing. Rear brakes are 21 by 3¾ in., with two pairs of shoes, each pair operated by a separate brake lever, but the four levers are moved in unison by the brake hook-up. Front brakes are 17¼ by 3 in.

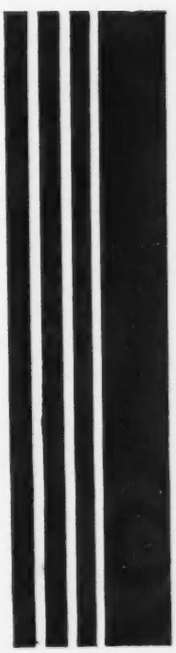
Standard tires are solids, 36 x 7 front, 40 x 7 dual rear, pneumatics, 40 x 8 or 42 x 9, are supplied at extra cost.

Standard equipment includes, in addition to the usual items, electric lights and horn, front bumper, speedometer, air cleaner, thermostat, stop light and tow hooks, front and rear. Windshield wiper and mirror are supplied with all bodies and cabs.

Specifications of Stewart Model 27X

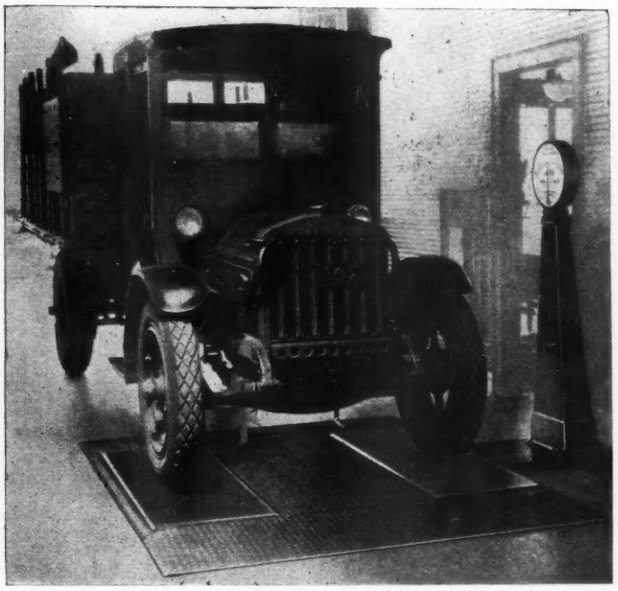
Model	27X
Price	$5,700
Capacity	5-7 tons
Chassis weight	9300 lb.
Wheelbase, standard	165 in.
Optional, same price	150 in.
Optional, extra cost	175, 190, 220, 235 in.
Tires, front, standard	36 x 7 solid
Optional, extra cost	40 x 8 pneumatic or 42 x 9 pneumatic
Tires, rear, standard	40 x 7 dual solid
Optional, extra cost	40 x 8 dual pneumatic 42 x 9 dual pneumatic
Engine, make and model	Waukesha
Size	6—4⅜ x 5⅛ in.
Piston displacement	462 cu. in.
Ignition, make	Delco-Remy
Type	battery
Starter and generator	Delco-Remy
Carburetor, make	Stromberg
Fuel feed	vacuum
Gas tank, capacity	40 gal.
Location	under seat
Radiator, type	fin and tube
Clutch, type	multiple disk
Transmission, type	dual
Auxiliary	Fuller 2-speed
Mounted	unit
Main transmission	Fuller 4-speed
Mounted	amidships
Universals, make	Spicer
Rear axle, make	Timken
Final drive	worm
Type	full-floating
Ratio, standard	10 to 1
Optional	8¾ to 1 and 11 2/3 to 1
Propulsion	radius rod
Steering gear, make	Ross
Type	cam and lever
Service brakes	four-wheel internal mechanical
Auxiliary operation	B-K vacuum
Hand brake, location	driveshaft
Type	contracting
Springs, front	40 x 3 in
Leaves	14
Rear	56 x 4
Leaves	14
Auxiliary leaves	6
Frame, size	9⅛ x 2¾
Thickness	5/16 in.





Top view of new Stewart five-seven ton Model 27X. A large cross-member is placed about midway of the frame, and cross-bars are mounted at front and rear of rear springs. Radiator, engine and transmission are mounted on rubber. Brakes are four-wheel mechanical, operated by vacuum

WEAVER ALIGNMENT INDICATOR



A NEW wheel aligner, which provides easy and accurate means of measuring wheel alignment while the truck is in motion is being offered by the Weaver Manufacturing Co., Springfield, Ill. The purpose of the device, known as the Weaver automatic wheel alignment indicator, is two-fold. Installed in the runway or entrance to the service station, where patrons can drive over it conveniently, the indicator will attract and educate operators of the importance of correct alignment for greater economy and safety. In addition, it is a precision machine that will be found of great value for checking adjustments in shops handling this work.

To check alignment, the driver runs over the indicator without stopping, but slowly enough to note the reading of the hand on a large double-faced dial which is in direct line of vision. As the wheels pass over the indicator plates, the hands on both sides of the dial show the degree of misalignment present in number of feet side slip per mile due to wheels being in or out. Excessive misalignment is indicated by a bell. After the wheels leave the indicator plates, plates and hands automatically return to zero, permitting immediate check of the rear wheels or the next vehicle.

The indicator consists of two plates linked together and mounted on ball bearings so as to permit free movement toward or away from each other. Resistance of misaligned wheels are relieved by the plates, which move according as the side thrust is in or out. This movement is communicated to the hand on the dial. The instrument is installed by anchoring it in a level position to the floor with four lag screws. It can be placed anywhere and is not in the way because it lies flat.

DAVIS TANK

A SERIES of three-compartment tanks ranging in capacity from 250 to 500 gal. for mounting on 1 to 1½-ton chassis is being built by the Davis Welding & Manufacturing Co., Cincinnati, Ohio. Included in the series is a 400-gal. tank recommended for the Ford Model AA.

The tanks are made of 14-gage blue annealed sheet steel. Heads are corrugated and flanged and each compartment is separated by double bulkheads, all seams of which are on the outside.

Each compartment is equipped with 6-in. Quixeal fill caps, also low-fusing emergency vent plugs, fire screens and Triplex vents. Caps are hinged to domes to prevent loss and also damage to painting on tank, and domes are of large size to provide ample expansion capacity. The bucket-box is constructed integral with the tank. It is wood-lined, has solid oak floor, four compartments, and side hung doors equipped with nickel-plated lock. On each side and running full length of tank are drop metal-panel can racks wide enough to accommodate either 5 or 10-gal. cans.

The bumper bar, known as the loxelf, when in normal position protects the faucets but when oil is to be drawn the bar can be quickly swung up out of the way. Slightly blunted points along the top of the bar are designed to discourage stealing rides.

The tank rests on pressed steel bolsters mounted on white oak sills, tapered for drainage. Bolsters are equipped with weatherproof anti-squeak. The tank is protected from wheel splash by splash plates extending from sills to inside cage edge of running boards. All piping is supported to the tank and consists of single 1½-in. lines.

BUDA-HUBRON EARTH DRILL

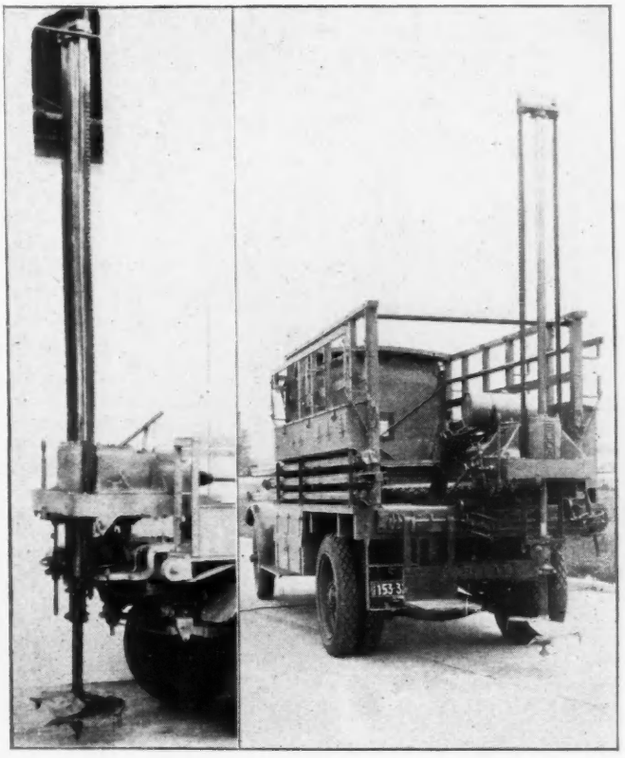
INCLUDED in a line of Buda-Hubron earth drills offered by the Buda Co., Harvey, Ill., are two truck mounting types. One uses the truck engine for power, the other is a complete unit in itself, using a separate engine mounted directly on the drill frame.

The drill and engine of the self-contained model, which is the more popular of the two, are mounted in a frame, which in turn is carried in a sub-frame bolted to the truck floor. Since only four bolts are required to secure the sub-frame, the entire assembly can be removed or replaced on a truck in a few minutes.

The powerplant is a two-cylinder, horizontally opposed, air-cooled type having a bore and stroke of 4½ in. Power is transmitted to the drill spindle by a train of bevel and spur gears giving a ratio of 100 to 8. The spindle is driven by two 14-in. offset bronze sliding keys. The clutch, so designed to slip under shock loads, is of the taper cone type with a heavy taper. The bottom and top of the drill spindle, which is 2½ in. in diameter and made in varying lengths up to 20 ft., are provided with yokes connecting to bars, one on each side of the spindle. Roller chains, which function as flexible racks, are laid against these bars and are fastened with springs at both ends. A cone type lift clutch is employed to lift the drill.

The drills are made in various sizes from 1½ in. to 24 in. in diameter and are made of cast steel helix with removable clearance cutters and bolted-on lips. Manganese or carbon alloy steel is used for the cutters, depending on conditions. In ordinary soil this drill is claimed to drill a hole 6 ft. deep and 24 in. in diameter in three minutes.

The other model, using the truck engine for power, is similar to the unit model except that power is taken from a power take-off through universals.



WALSHWELD

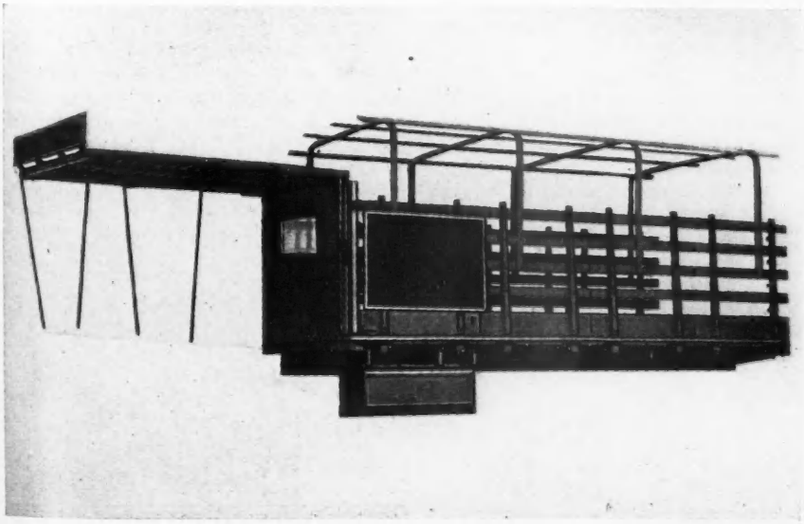
MADE in various standard lengths ranging from 9 to 18 ft., the Walshweld rack body, produced by the Perin-Walsh Co., Boston, Mass., consists of steel T-channels and angles welded into a one-piece unit. The builder claims strength, lightness and no loose parts to rattle. The list price for the standard job ranges from $188 to $438 according to the length. Width is optional up to 96 in., but heights over 48 in. are extra.

Frame and understructure consist of 4-in. channel iron crossbars, sills and end bars and oak chassis sills. The floor is constructed of 1⅜-in. oak boards planed on both sides and bolted to crossbars. Stakes are ash or oak and have beveled edges.

The header is of solid hardwood sheathing supported by three stakes mortised into crossbar. All joints are machine tenoned and mortised. Height is determined by height of cab and a square hole is cut into the header to correspond to cab rear window.

All removable racks are built with three sections up to 12 ft., or with four sections over 12 ft. Permanent slatted sides are furnished at no extra charge, but rear sections are not supplied with standard body. Standard equipment includes two steel signs fitted between the stakes, stationary hooks, swing hooks and rope knobs on rear stakes.

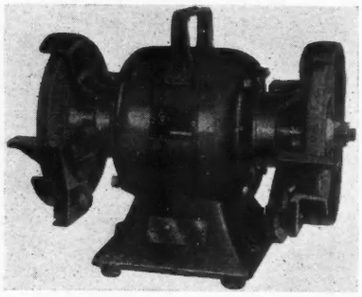
(Turn to page 78, please)



NEW PRODUCTS FOR THE TRUCK MARKET

B. & D. Bench Grinder

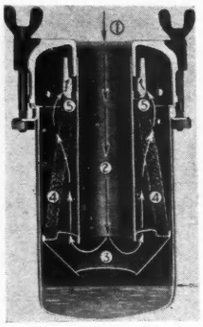
The Black & Decker Mfg. Co., Towson, Md., has brought out a new 6-in. ball bearing portable electric



bench grinder selling for $35. This grinder is for use on a.c. current, maintaining a 3600 r.p.m. spindle speed on 60 cycle current and 3000 r.p.m. on 50 cycle current.

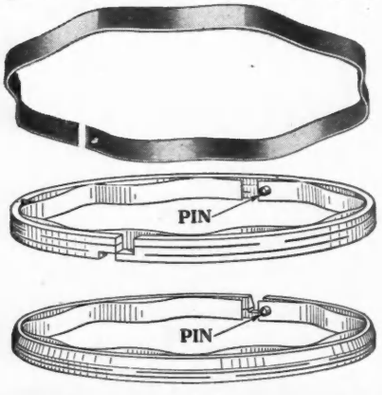
AC Air Cleaner

Triplex, the new truck air cleaner announced by the AC Spark Plug Co., serves three functions, air cleaning, fire arresting and carburetor muffling and has three stages of air cleaning. The first stage of cleaning is through the stack which supplies air from high up under the hood; the second is by impingement of most of the dust into the oil supply in the bottom of the cleaner; and third, through hollow cone of oil-wetted copper mesh.



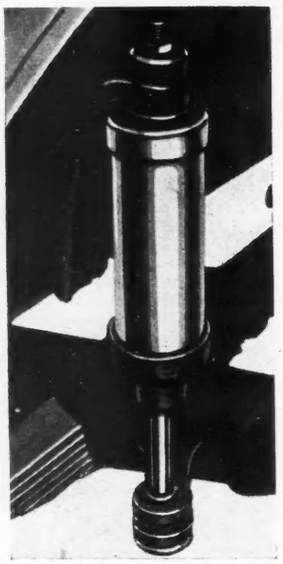
Piston Pin Expander

The Simplex Slap-Chek piston ring expander placed on the market by the Simplex Piston Ring, provides a differential pressure by variation of the thickness of the special alloy steel from which the expander is made. A dowel pin is provided to hold the expander in place after installation. The dowel pin is located in a shallow hole drilled in the bottom of the piston ring groove with the Simplex drill jig. Expanders, when installed, hold the piston firmly against the front of the cylinder wall.



Gemmer Shock Absorber

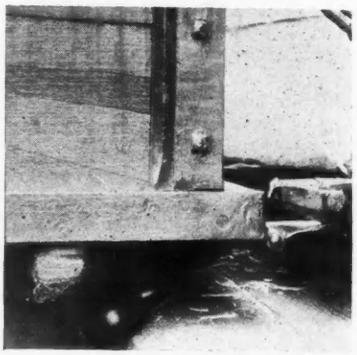
A new shock absorber using air as a cushioning element and vacuum to control rebound has been introduced by the Gemmer Mfg. Co., Detroit. The Controller, as it is known, resembles



a double-acting plunger type pump, being composed of a cylinder, flexibly attached to the frame through a stamped bracket, and a piston and rod, the latter flexibly attached to the axle. As the controller is compressed the piston travels upward, compressing the air ahead of it. Pressure in the upper and lower parts of the cylinder is balanced by metered escape of compressed air to the lower part of the chamber through a slot in one side of the seat of a ball valve. As the piston starts down on the rebound stroke the ball seats itself on the upper seat of the check valve, creating a vacuum above the piston and compressing the air ahead of it in the lower part of the chamber. On severe shock, to prevent too rapid take-up on the compression stroke by the vacuum created below the piston, another ball valve opens in the base of the cylinder, admitting additional air. Some of this air will be again expelled before the ball again seats itself.

Flexible Tail Lamp

The Champion Rubber Lamp Co., Inc., 236 W. Fifty-fifth St., New York City, is offering a tail lamp designed to



cut replacements caused by collisions, bumps and vibration. The lamp is of rubber and the holder of malleable iron, so fashioned that the rubber cannot be pulled out or sheared off by an obstruction. Price, $5.

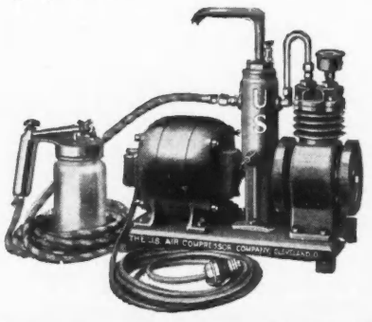
Valve and Cotter Pin Tool

This tool, made by Billings & Spencer Co., Hartford, Conn., has jaws for inserting cotter pins, flat beveled handle

end for spreading and a hooked end for pulling. The jaws are also suitable for slipping in washers on valve work. The tool is of forged steel, finished in black lacquer and is 9½ in. long.

Portable Paint Spray Unit

This compact, light-duty paint spray unit, made by the United States Air Compressor Co., Cleveland, Ohio, occupies about a square foot of space and is known as the Spray-All. Specifications: 2½ cu. ft. displacement, 20 lb. max. painting pressure, motor hp., ¼; width, 7 in.; length, 15 in.; height, 15 in.; weight, 46 lb.



CARRIERS PREPARE

(Continued from page 16)

constructive stations. He rather plaintively inquired if the same thing would not follow if the new service were put into effect. Nobody seemed to know, although one truckman did say that the New York Central, using some 46 trucking contractors instead of one company, had no cause to complain as to the tonnage handled by trucking in lieu of lighterage operations.

The result of the meeting was that Mr. Roberts asked George W. Daniels, an official of the United States Trucking Corp., and president of the Merchant Truckmen's Bureau of New York, to appoint a committee from among the truckmen to draw up a schedule of rates covering, and I quote Mr. Roberts, "a form of direct collection and delivery service which will fit the rigorous and difficult requirements of the Port of New York." That this is more than a mere gesture is seen in the fact that Mr. Roberts is chairman of the Committee of Railroad Presidents, appointed for the purpose of "investigating" the application of "a form" (and we must get that official "form" in) of store-door delivery service to this port. This "form," it is said, will only apply to carload business.

Since Aug. 21, the Rate Committee of the truckmen held daily meetings and by Sept. 4 had finished up their schedule of rates. It was a masterly work, according to those who saw the schedule, and was about to be presented to the railroad committee when the local unions, 807 and 282, of the International Brotherhood of Teamsters, with whom the Merchant Truckmen's Bureau contracts, called a snap strike because of the failure of the bureau to concede an 8-hr. working day. The men refused to turn out on the morning of Sept. 5, and after having been out 3 hr., the employers capitulated, granting them an 8-hr. day, time and a half for overtime; drivers of tractors and six-wheel Reach trucks to receive $53.50 a week when the driver helps to load, or unload; when he does not so help, salary on the foregoing types of vehicles to be $47.50; payment of drivers on the basis of state registration of trucks, rather than on manufacturer's rated capacity, and helpers to be paid $40 a week. Overtime on Sundays or holidays is to be paid on the basis of double-overtime. Otherwise, the scale of wages remained the same, running from $41 for chauffeur of a 1-ton truck, to $47.50 for driver of a 7½-ton truck.

The concessions made by the bureau not only placed New York truckmen in the unique position of being the only group of cartage men in the country working on the eight-hour basis, but also necessitated an entire revision of the trucking rates drawn up for the railroads. The committee, therefore, began its labors anew and submitted its revised schedule to the railroad committee on Sept. 13. Some thoughtless person pointed out that Friday the 13th was a day of ill omen, but the rates were submitted just the same!

Once in possession of the rates, the Roberts Committee relapsed into a profound coma of concentration and sent word to the Committee of Truckmen, headed by Mr. Daniels, that the railroad executives would have words — many words—with the elite of the best minds in Cartagedom. Therefore, the railroad officials had a preliminary meeting on the morning of Sept. 20, after which, at 2 p. m., the truckmen were invited to come in, justify their rates, plan, scope, et al.; in short, "Go ahead; make us laugh!"

The chief sleuth of Department X, by concealing himself behind a picture of a long-gone railroad president, was thus able to catch some of the details of the new store-door plan. These details are presented herewith:

Freight is to be broken out of cars at terminals in New Jersey or, in the case of the New York Central, at the Sixtieth St. yards, and trucked direct to the store door of the consignee. The metropolitan district is divided into eleven zones, taking in as far as Paterson, in northern New Jersey, and as far as Newark, in southern New Jersey. Thus, cartage charges will be based, first on zones in which the consignees are located, and second, on the classification of the freight. For example, according to the Department X representative, the lower the freight classification, the higher the cartage rate.

The rate schedule presented to the railroads by the Trucking Committee placed the cartage charges at from 11 to 20 cents, using a 26,000-lb. car as a basis. The variation is greater on a 12,000-lb. car, the rate going as high as 32 cents per hundred.

Cartage charges, it was declared, would be incorporated in the tariff, and in order to get away from "lower cartage rates in return for shipping over our road," the railroads themselves would bill the shipper or consignee for cartage—including the charges in the freight bill, etc., and then pay the truckman-contractor. Some idea of how the charges will work out is gained from the following:

Take the 11-cent rate for illustration. In this connection the railroad will pay the truckman five cents for his cartage, and the shipper or receiver will pay six cents. Who will pay for loading or unloading the cars has not been definitely arrived at, as this is being written. There is talk, however, of a tentative agreement whereby truckmen will load, or have loaded, eastbound freight, and the railroads will pay for the loading of the westbound freight.

It should be definitely understood that the entire plan as projected *only applies to carload business at this time.* It might also be added that the meeting on the 20th was decidedly stormy, with some of the railroads demanding that the plan be made effective by the 25th and others stalling for more time to permit of mature consideration and, perhaps, revision. The B. & O., New York Central, and Delaware, Lackawanna & Western were reported to be particularly antagonistic to delays, with the Pennsylvania, Erie and Lehigh Valley clamoring for slow, conservative stepping.

In the interval, acting upon a recommendation made by Mr. Roberts' committee, the presidents of all the railroads in the port, 11 in number, after a series of conferences with the Port of New York Authority, gave approval for the construction by the Port body of a universal freight station to be used by all the roads for the handling of less-than-carload non-perishable freight, to be ready for use within a period of 15 months, at an estimated cost of $9,000,000, although it was freely admitted that this amount might be exceeded. The promise to use the terminal when constructed also carried the proviso that the Port Authority "will construct two additional inland universal freight stations if and when desired by the railroads."

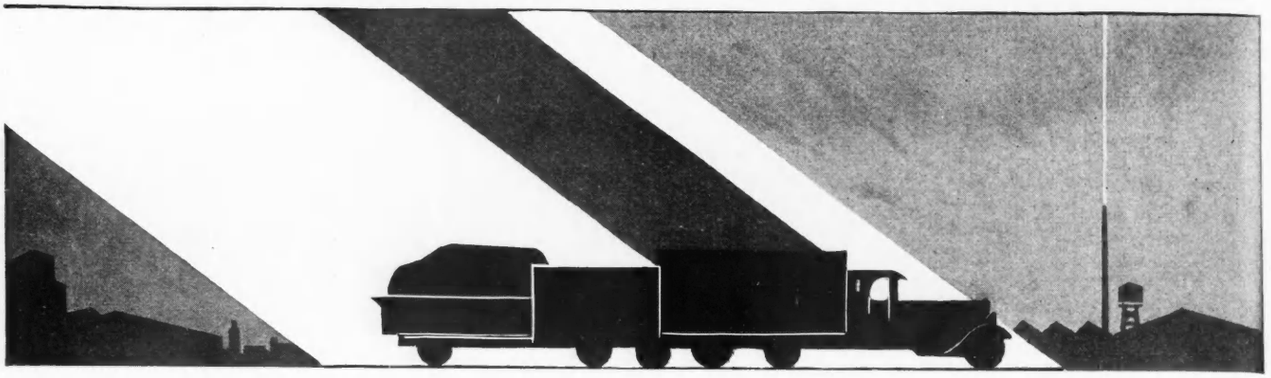
Under the universal station plan, all incoming freight for New York is to be sent to the terminal by truck from the railheads. There it will be sorted into two lots for receivers, who will pick it up on their own trucks. This procedure will eliminate the delay and expense involved in the present system, whereby receivers send their trucks to several different railroad terminals for merchandise. Outbound shipments will be brought to the terminal in trucks owned by shippers, where it will be sorted and transferred to the railroads by truck and trailers. It is expected that this operation will materially reduce traffic congestion around the piers, and the lessening of congestion will also extend to the Jersey shore.

The action of the railroads in agreeing to a universal station, Port Authority-operated, is considered a great triumph for the Port body, which commission will pay for the construction of the terminal by the sale of bonds authorized by the 1926 Legislature. It will be a good thing for the truckmen also, necessitating but one "drop" instead of calls to many different points, as is now the case. Who will do the transfer work from terminal to piers, however, has caused many brows to furrow in thought. It will be a very profitable piece of business, and will have many seekers.

Reverting back, however, to the subject of the store-door innovation, la-

(Turn to page 60, please)

TRUCK INDUSTRY



N-E-W-S

E. R. Boeck Heads Truck Equipment Association

At the fifth annual meeting of Equipment for Motor Trucks, Inc., which was held recently in Detroit, the following were elected for the coming season: President, E. R. Boeck, Truck Equipment Co., Inc.; first vice-president, H. Cohen, Perfection Steel Body Co.; second vice-president, F. C. Buchanan, Columbian Steel Tank Co.; treasurer, L. Rodenhausen, Rodenhausen Sales & Service Co., and secretary, G. M. Bunn, Philadelphia Truck Equipment Corp., Philadelphia, Pa. Next meeting, Jan. 15, 1930, at Colton Manor Hotel, Atlantic City.

Thompson Announces Changes

C. E. Thompson, president, Thompson Products, Inc., Cleveland, Ohio, announces the following changes in operating personnel: E. A. McBride will take over the position of factory manager, Harry Bubb has been appointed chief metallurgist, J. M. Kerwin becomes general superintendent, and Daniel Kelleher will act as chief engineer.

Battery Men to Meet in Cleveland

National Battery Manufacturers Association will hold its annual meeting at the Hollenden Hotel, Cleveland, Oct. 24 and 25. It is planned to secure as features several members of the United States Chamber of Commerce as well as authorities on technical subjects and problems affecting the industry.

Wilson Builds Truck Depot

The Wilson Transportation Co., Sioux Falls, S. Dak., has broken ground for the erection of a $250,000 warehouse and truck depot which will be 126 ft. wide and 280 ft. long, providing a total of 143,000 sq. ft. of floor space. The company consists of a consolidation of over thirty truck lines.

Walter C. White Dies After Motor Collision

Death came to Walter C. White, president of White Motor Co., Cleveland, Sept. 29, after a 19-hour fight for his life, following a motor collision which occurred as he was driving to his office. He was hurled 100 ft. and suffered fractures of the right leg, a fractured left thigh and internal injuries.

Mr. White, a pioneer in the industry, was born in 1876. After graduating from Cornell in 1898 he took graduate work in the New York Law School and was admitted to the bar of that state. He joined his father and brothers in manufacture of the White steam car in 1900 and became celebrated at that time as a cross-country driver in early reliability competitions. During the war he was appointed chairman of a committee to coordinate Allied truck troop transportation and headed the Interallied Transportation Commission. For his service he was cited by the British Government, was awarded the Croix de Guerre and made a Chevalier of the Legion of Honor.

Mr. White was a member of the board of directors of the National Automobile Chamber of Commerce and was active as a member of the truck committee. He was also a member of the Society of Automotive Engineers.

At a meeting of the National Automobile Chamber of Commerce, preceding drawing for space at the national shows, high tribute was paid to the memory of Walter C. White, who was for years a member of the board.

Ford AA 1½-ton Truck Advanced to $540

The Ford Motor Co. has announced that the price of the Ford Model AA 1½-ton truck has been advanced from $460 to $540. Specifications remain the same with the following exceptions: Reduction in high has been changed from 5.11 to 1 to 5.17 to 1; chassis weight has been increased from 2386 to 2485 lb.; 6.00 x 20-in. balloons replace 30 x 5-in. high pressure tires formerly used on front wheels; and distance from cab to center of rear axle has been increased from 51 to 51¾ in.

Uniform Bus Code Adopted

The Uniform Motor Bus Specifications Code, on which so much time and effort has been expended during the past three years, has been unanimously endorsed and adopted by the National Association of Railroad and Public Utility Commissioners.

Day-Elder Sales Increase

The National Motors Mfg. Co., Irvington, N. J., reports that sales of trucks and buses during the first six months of this year gained 40 per cent when compared with the first half of 1928. At the present rate of profit increase, the company anticipates a gain of over 70 per cent for the entire year of 1929 as compared with 1928.

Ohio Regulates Trailer Length

Attorney General Bettman interprets the law recently enacted by Ohio regulating the length of truck and trailer combinations as follows: That no single unit can be longer than 30 ft. and that a combination of units cannot be longer than 85 ft.

Commercial Car Specifications on Page 65

First Announcement

Another Remarkable Development *by* ROSS

The "Roller-Mounted"
CAM *and* LEVER STEERING GEAR

EFFICIENCY { *Minimum 68%** / *Maximum 79%** }

INCREASE IN STEERING EASE { *Minimum 30%** / *Maximum 40%** }

**Depending on size of gear*

★ **All of the known and established Ross advantages—greater leverage, low internal pressures, road-sense and control of road-shock—plus important NEW advantages.**

★ **Practically no wear in service. Simple, accessible adjustment requires 15 to 30 minutes at most.**

★ **Ross led the way with the development of cam-and-lever steering—and now leads the way *again*.**

★ **Complete details are ready for those manufacturers who are interested in the radically increased ease and ultra-nicety of steering given by this gear. Please write.**

ROSS GEAR AND TOOL COMPANY, *Lafayette, Indiana*

ROSS Cam AND Lever STEERING
"Roller-Mounted"

Woodruff Elected President by White Board

Robert W. Woodruff, president of the Coca Cola Co., was elected president of the White Motor Co. at a special meeting of the board. Mr. Woodruff has been a member of the White directorate for years, having also served as vice-president seven years ago. He will continue, it is reported, as head of the Coca Cola organization. Other officers elected are: Saunders Jones, vice-president in charge of distribution; George Kelly, vice-president and treasurer; H. D. Church, vice-president in charge of engineering; George W. Smith, Jr., vice-president and manager of production; and P. R. Dahl, secretary.

Peo Now Houde Vice-President

Ralph F. Peo was elected vice-president and general manager of the Houde Engineering Corp., Buffalo, at a recent meeting of the board. Claire Barnes, president of the Houdaille-Hershey Corp., was elected president of the Houde Engineering Corp. to succeed A. B. Shultz, whose resignation was accepted with regret.

Erie Wheel Expands

The Automotive Wheel Division of the Erie Malleable Iron Co., Erie, Pa., is erecting an additional unit which will double its present floor space. The building is expected to be ready for occupancy during this month.

Vaughn With Brant-Warner

B. M. Vaughn has been appointed by the Brant-Warner Mfg. Co., York, Pa., to represent its interests in the Southwest.

Johnson is Fisk Advertising Head

C. H. Johnson has been appointed advertising manager of Fisk Tire Co., Chicopee Falls, Mass. He goes to Fisk from Young & Rubicam, Inc.

Erie Metal Products Changes Name

The Lake Erie Metal Products Co., Bedford, Ohio, maker of axle shafts, worm gears, brake drums, etc., announces change of its name to Lempco Products, Inc., effective immediately. The address of the company's new Chicago warehouse is 323 W. Polk St.

M.E.A. Chicago Show Plans

The Eleventh Annual Automotive Equipment Show, which will be held at the Coliseum in Chicago, November 4-9, promises to be one of the most interesting in the history of the association, according to M. C. DeWitt, chairman of the M.E.A. show committee.

Thermoid Expands Personnel

Robert J. Stokes, president, Thermoid Rubber Co., announces that Robert Lee, general sales manager for the past five years, has been elected vice-president and will be associated with Robert J. Stokes and Joseph O. Baur, secretary, in connection with the general management of the company. James A. Wheatley, Jr., has been promoted to sales manager of the automotive division.

Studebaker Appoints Greene

Dr. James H. Greene, director of the Research Bureau for retail training, University of Pittsburgh, has been appointed manager of the cooperative department of the Studebaker Corp. Dr. Greene succeeds to the position left vacant by the death of Dr. C. A. Lippincott.

Dodge Brothers Exports Increase

Dodge Brothers export shipments of trucks and commercial cars totaled 8163 units for the first eight months of this year, a new all-time record and an increase of more than 11 per cent over the corresponding period last year.

Continental Brings Out New Engine

Continental Motors Corp. announces an overhead valve, removable cylinder sleeve, six-cylinder bus engine, the Model 20G of 150 hp., with a 5¼ bore and 6-in. stroke.

G.M. Buys North East

Officials of General Motors Corp. announce that the company has purchased the North East Electric Co., Rochester, N. Y., by an exchange of stock.

Hyatt Promotes Meister

H. O. H. Meister has been appointed assistant general manager of the Hyatt Roller Bearing Co. Mr. Meister has been associated with the Hyatt Co. for over fifteen years serving as division manager, assistant general sales manager and general sales manager.

Receivers Operate Acme

Michigan Trust Co. and Louis C. Klesner have been appointed operating receivers for Acme Motor Truck Co. Receivership resulted from a petition of Continental Motors Corp., which was made, it was stated, to protect assets of the company and permit it to continue operations. The petition set forth that the company had a good business.

Coming Events

SHOWS

Atlantic City — American Bottlers of Carbonated Beverages .....Nov. 11-15
Atlantic City—American Road Builders Assn. .....Jan. 11-18
Chicago—Motor & Equipment Assn. Nov. 4-9
Detroit—National Standard Parts Assn. .....Nov. 11-16
Chicago—National Automobile Show, Jan. 25-Feb. 1
New York—National Automobile Show, Jan. 4-11

CONVENTIONS

Chicago—National Automobile Dealers Assn. .....Jan. 27-28
Detroit—National Standard Parts Assn. .....Nov. 11-16

New Ross Steering Gear is More Efficient

By using roller bearings between the cam and lever of its steering gear the Ross Gear and Tool Co. has lightened steering and reduced friction. This has been accomplished by mounting the lever end of the stud in Timken tapered bearings. The stud, through which steering effort is transmitted from the cam to the lever, formerly maintained friction contact with the cam. The bearing in the lever end of the stud now takes up the friction.

AC Erects New Building

The AC Spark Plug Co. has started work on a new three-story building, providing 42,000 sq. ft. of floor space, which will be occupied by the engineering staff, experimental, development and testing departments and laboratories. Removal of these departments to the new building will leave space for manufacturing a new AC product, an electric gasoline gage.

Toledo Valve Effects Merger

Announcement has been made that the Toledo Steel Products Co. has purchased the controlling interest in the Fostoria Screw Co. There will be no changes in the operating personnel of either company. V. C. Crawford and E. R. Pillars remaining as general managers.

Brockway Profit Report

Brockway Motor Truck Corp. and Indiana Truck Corp., report consolidated net profit after all charges, for the six months ended June 30, of $548,541, which compares with $776,326 for the first six months of 1928.

Finney Elected Treasurer

C. M. Finney has been elected treasurer of the Brockway Motor Truck Corp. to succeed F. R. Thompson, resigned. I. A. Stull has been appointed secretary.

McWhorter to Manage Branch

G. M. McWhorter has been appointed branch manager of the Brockway Motor Truck Corp.'s branch at Philadelphia.

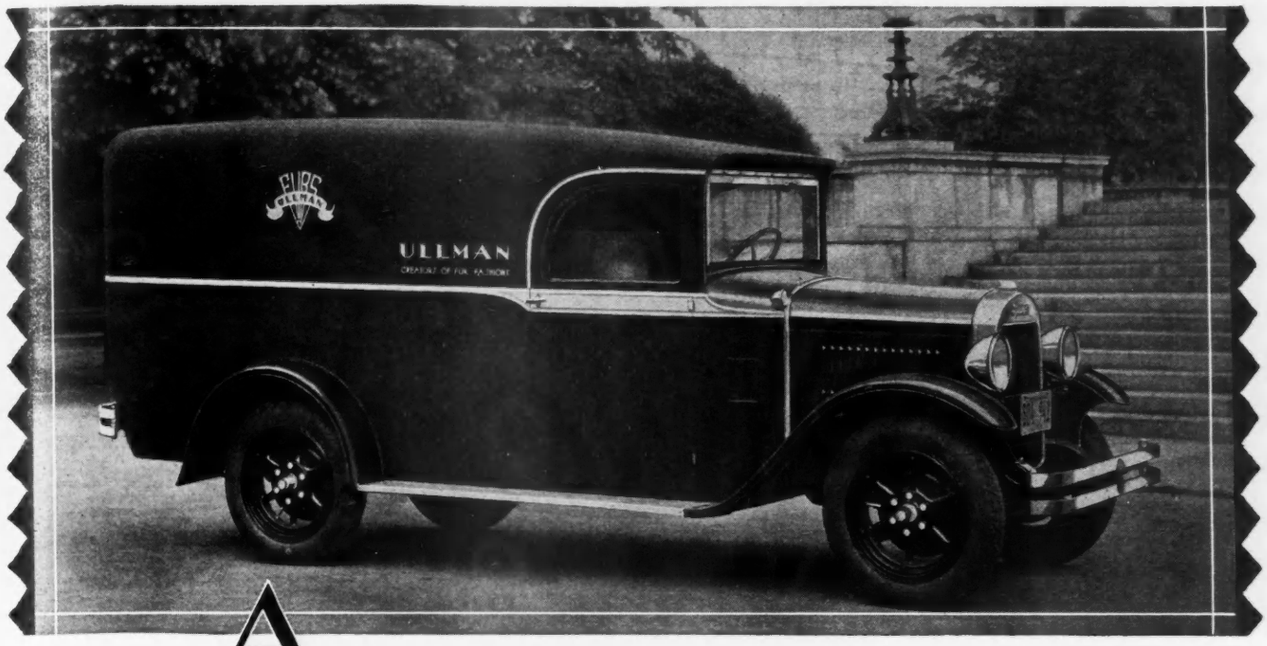
C.I.T. to Finance Durant Sales

Durant Motors, Inc., has entered into a contract with the Commercial Investment Trust Corp. for financing all time-payment sales. A plan to liquidate the Durant Acceptance Corp. has been announced.

Autocar to Vote on Par Stock Change

Stockholders of Autocar Co. will vote on Oct. 30 on proposal to change stock to no par value from $100 par. Following approval of stock change, directors propose to issue three no par shares in exchange for each $100 per share held.

Commercial Car Specifications on Page 65



ANNOUNCING

A New Custom DeLuxe Panel Body
Smart in Appearance

RICH in quiet elegance, revolutionary in design, Stewart's new custom DeLuxe Panel Body adds an air of smart distinction to the modern motor delivery.

Constructed of hard oak and ash, metal covered throughout with sealed and lighted interior, this stylish body is precision built by Stewart master craftsmen. To exclusive shops and department stores desiring a smart appearing motor delivery for distinctive advertising value, the new Stewart DeLuxe Body is highly recommended.

Standard equipment includes saddle lamps, dome lights, rear view mirror and windshield wiper.

The Body has a 7 foot loading space for the ¾ ton model, 8 foot for the 1 ton and 9 foot for the 1¼ ton model.

STEWART MOTOR CORPORATION
BUFFALO, N. Y.

Export Branch: 1 BROADWAY (Dept. 3) NEW YORK CITY, U. S. A.
Cables: Stewartruk New York. Codes: Acme, Bentley, ABC 5th Improved 5 & 10 Letter Universal Trade Code

MODELS

¾ Ton
6 Cylinder, $895 Chassis
1 Ton
6 Cylinder, $995 Chassis
1¼ Ton
6 Cylinder, $1295 Chassis
1½ Ton
6 Cylinder, $1495 Chassis
2 Ton
6 Cylinder, $1695 Chassis
2 Ton Special
6 Cylinder, $2290 Chassis
2½ Ton
6 Cylinder, $2690 Chassis
3½ Ton
6 Cylinder, $3690 Chassis
4 Ton
6 Cylinder, $4200 Chassis
5 to 7 Ton
6 Cylinder, $5700 Chassis

All prices f. o. b. Buffalo

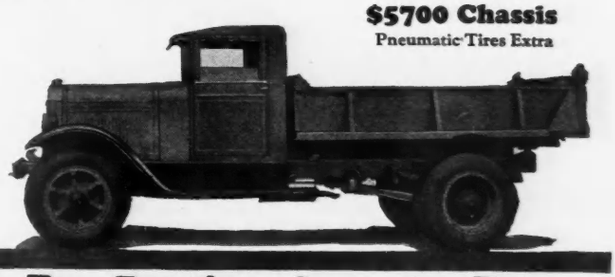
Stewart
MOTOR TRUCKS

5 to 7 Ton
$5700 Chassis
Pneumatic Tires Extra

A New 5-7 Tonner

6 cylinder motor, booster 4 wheel brakes, helper springs, large Timken full floating rear axle, cam and lever steering. Transmission gives "low low" of 93.8:1 for pit work.

Wheelbase 165 in. or 150 in. optional standard. Special 175, 190, 220 and 235 in. The greatest heavy duty truck value on the market.



Stewart Trucks Have Won By Costing Less to Run

REFUSE BODIES

(Continued from page 25)

preceding paragraph is made by Bean Cars, Ltd., Tipton, near Birmingham, England. The body, mounted on a 30 Bean chassis, if of all-metal construction, 9 ft. 6 in. long, 5 ft. 9 in. wide and 2 ft. 1 in. high at the sides. The roof shaped like a gable consists of four metal covers hinged along the peak of the gable. So as not to interfere with quick and convenient loading the covers are spring loaded, which cause them to rise automatically to a high angle upon releasing catches on the sides of the body. Loading strips hinged on the sides of the body allow the loading line to be lowered several inches. Full width doors at the rear when swung open automatically clamp to the sides and permit uninterrupted discharge when the body is raised. The body is raised and lowered by a hand-operated screw-type hoist. The screw is operated by bevel gears with shaft extending across the chassis and may be cranked from either side of the chassis.

The refuse body built by Morris Commercial Cars, Ltd., Soho, Birmingham, Eng., is novel in its three-way dumping ability. The body, mounted on a 30 Morris chassis, is 8 ft. long, 5½ ft. high and 1½ ft. high at the sides. It has a low-loading line of 3 ft. 5¾ in. and a capacity of 81 cu. ft. The sides of the body are hinged and detachable and the tailboard is designed to swing at the top as well as at the bottom. Mounted above the sides is a metal semi-circular top with covers, which telescope when raised. The floor is lined with 18-gage sheet steel. Hoisting mechanism is hand-operated from either side of the chassis. Two screws mounted on the chassis by means of a stout cradle and attached to a rail running across the center of the body comprise the dumping mechanism. Either side or rear dumping is accomplished simply by pin locking the body at the pivoting points. As shown in the accompanying illustration, the body rests on two U-channels, the ends of which turn up and carry the pins which serve as pivots when dumping.

A German development of unusual interest is a special job incorporating a screw conveyor for loading and which has been adopted by more than 80 German cities in dustless refuse collection service. It is a product of the Krupp Company, Essen, Germany.

As may be seen from the accompanying diagrammatic view, a screw conveyor is arranged diagonally inside the body. This screw is driven from the truck transmission through a power takeoff comprising two pairs of bevel gears. The housing for this screw is made of alloy steel plate and projects from the body at the rear. Its rear end, which is about 3 ft. from the ground, forms the opening through which the truck is loaded. The screw moves refuse to the forward part of the body, and in order to distribute it throughout the body, the latter is tipped either once or several times during the loading operation. The standard capacity of these ash trucks is about 15.6 cu. yd.

Standardized containers, which fit the loading opening of the truck may be used for entirely dustless removal. However, miscellaneous sizes of cans can be used. Unloading is accomplished by rear dumping. The rear wall of the body forms a gate swinging around its top edge which permits uninterrupted egress of material when the body is raised. The hoisting mechanism is hydraulically operated.

A quite different type of ash removal body, which does not require a hoist for loading or unloading, has been developed by Keller & Knappich of Augsburg, Germany. This body consists of a cylindrical steel drum which is supported on the chassis at three points. At the forward end, it is supported at its axis by a ball stud mounted in a spherical bearing on a pedestal on the frame, while at the rear there is a rail running around its circumference which is mounted on rollers on the frame. Within there are helical conveyor "shovels." At the rear the cylinder has a stationary head, which is provided with a central funnel projecting into the body. An opening in the lower side of this funnel forms the loading mouth. This opening is equipped with a hinged gate which opens when cans are emptied into the body and closes automatically when the cans are removed. During loading and unloading operations the body is revolved around its axis by means of a power takeoff. For loading the body is revolved to the right and for unloading, to the left. Speed of rotation for unloading is about three times as fast as that for loading. Engagement of the power takeoff can be effected either in the cab or at the rear. When unloading, the rear head, which is hinged at the top, is opened by means of a crank. These bodies can be unloaded in about three minutes. Marburg Brothers, Inc., 90 West St., New York City, represent Keller & Knappich in the United States.

Refrigerator Trucks

(Continued from page 17)

evident that plans are now being made for the extension of the system and the addition of more trucks.

The three-ton six-wheel Reo which, with the specially built body, weighs six tons net, leaves Los Angeles at 5 o'clock in the afternoon, taking a cargo averaging between six and seven tons. At San Bernardino the truck is reiced, the amount depending upon the character and condition of the shipment. But for the remainder of the journey no more reicing is done.

This speaks volumes for the refrigerator body job, which required careful planning of details. It had to be strong to withstand the wear and tear over the unpaved roads, and yet not so heavy that it would be a deadweight. Weight, durability and refrigeration qualities were the three essential items that had to be taken into consideration, according to K. M. Stevenson, manager of the Las Vegas Motor Express, Inc., who planned the service and was instrumental in drawing up specifications for the body.

The aluminum-painted job is insulated with Dry-Zero, which is said to weigh only one-tenth as much as cork, has better insulating value, and does not absorb moisture. Even so, the body itself weighs 3000 lb. and cost $1,250. The total cost of the truck is in the neighborhood of $5,000, which might seem prohibitive, but is not, because it is already paying for itself.

A side door, which may be seen in the accompanying photograph, permits the driver to unload or load shipments at the way-points without disturbing the remainder of the goods or impairing the refrigerating temperatures.

The durable qualities cannot be questioned when the nature of the long trek is considered. At one place, for instance, the truck rolls along the floor of the desert and then starts on a grade 26 miles long to the summit which is 30 ft. higher than any point on the Ridge route. Between Barstow and Baker another grade begins at Death Valley and rises to 5000 ft. within a distance of 31 miles, dropping again to sea level within 15 miles. Yet throughout this difficult grind a speed of about 20 m.p.h. average is maintained. Drivers are changed at Victorville, for the task would be too great for one man to pilot the truck from Los Angeles to Las Vegas.

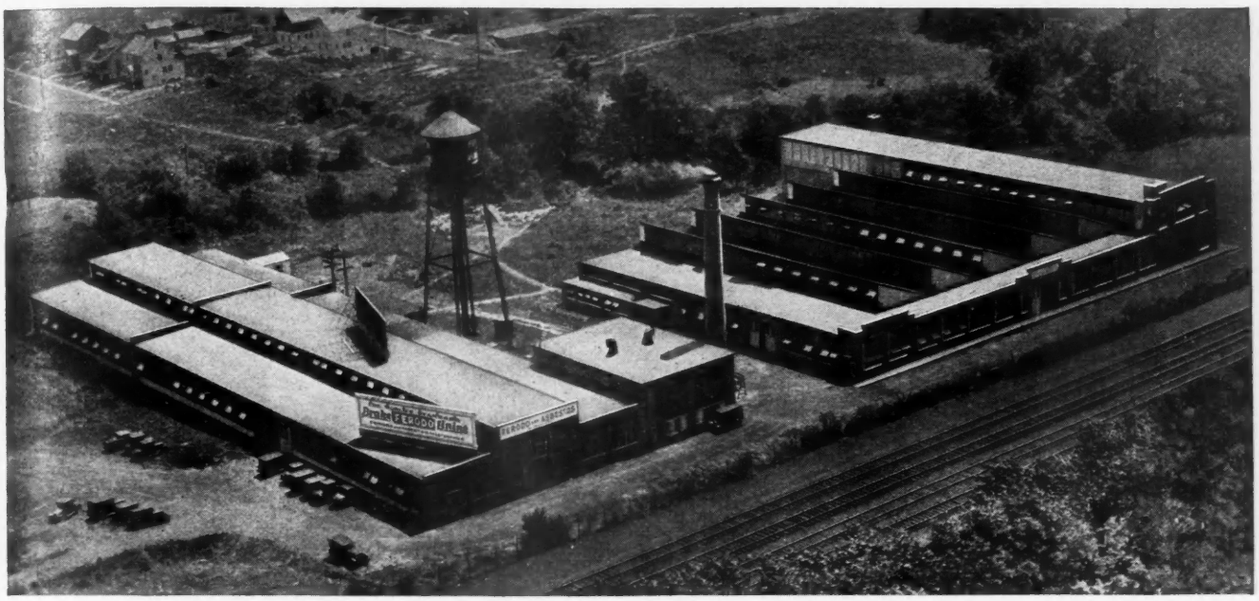
Durability must, therefore, extend even to the chassis and down to the rugged highway itself. Firestone balloon tires of the 9:75 bus type are used.

"Although we considered this something of a gamble at first," Mr. Stevenson, who has been operating truck lines for the past eight years, relates, "we believed there was a real need for a refrigerator line. The success of the venture exceeded our expectations, and we have made of it a profitable business. We anticipate a greater volume as time goes on, so that next season we will be required to increase our service. There is every reason to expect that once the Boulder Dam will get under way the demand for perishables will increase, but even as conditions are now, a steady business is assured."

Again the desert has been conquered, not by the primitive methods that called for the life blood of the early pioneers, but by the inventiveness and industry of those who are daily causing the earth to shrink in size and enabling all men, even those in the desert, to enjoy the good things of life.

Steadily Winning New Friends

Increasing demand for F*erodo* B*rake* L*ining* requires large additions to factory



Airplane view of Ferodo factory at New Brunswick, N. J., showing new additions. There are other Ferodo factories in England, France and Germany—for Ferodo enjoys a world-wide reputation.

So steadily—and rapidly—have the sales of Ferodo Brake Lining forged ahead since its manufacture was begun in this country, that it has now been necessary to add a large new wing to our factory. For this amazing growth, our thanks go out to all our customers.

Yet, after all, this growth is only what might be expected . . . for Ferodo Bonded Asbestos Lining *is* better. It does not burn or squeal, glaze or slip. It cannot become water-logged or grease-soaked. It does not shrink or swell. It is so highly resistant to wear that it holds its adjustment for much longer periods—an important saving in maintenance. And it outwears other linings by many thousands of miles.

See our exhibit at the A. E. R. A. Show—Booths 337 and 338

FERODO AND ASBESTOS, INCORPORATED

Factory and General Offices: New Brunswick, New Jersey

FERODO
REGISTERED
BRAKE LINING

DRIVER SALESMEN

(Continued from page 28)

cent service to customers. It has been found that orders obtained by the drivers are at best only estimates of the demands made of him on the following day. The result is that when he makes deliveries the next day he soon runs out of certain flavors, as a consequence of which the remaining customers are disappointed. For that reason, Hoffman employs a separate corps of salesmen who do nothing but solicit trade from the retailer while the drivers do nothing but deliver the goods and collect empty containers.

The salary and commission method of compensation with extra bonuses predominates in the milk vocation, as a glance at the accompanying table will indicate. The plan employed by Borden's Farm Products Co., Inc., New York City, which company employs more than 3000 route salesmen, is an excellent example of what a workable plan should be. John S. Watson, vice-president of the Borden organization, explains the plan as follows:

"Our route salesmen start at a weekly wage of $35. This amount is a straight wage and is in no way dependent upon the amount of business which a man secures, as we think the work of simply taking care of an established route warrants that initial payment. However, whatever the route salesmen earn above $35 a week is entirely dependent upon the amount of business which they do. We pay a commission of 2 per cent on all collections. By basing the commission on all collections rather than on sales, we give the route salesmen a definite incentive to keep collections close at all times. As a result, our loss on account of bad debts is minimized.

"In addition to the 2 per cent commission on collections, we have a point system. One point is a unit of sale such as a quart of milk, a jar of cream, a pound of butter, a dozen eggs, etc. For sales above 2100 points a week, we pay the man an additional commission of three-quarters of a cent a point. Our route salesmen average about $48 a week in an income range of from $44 to $70 under this combination commission and point arrangement. We have found that the plan increases sales, keeps up collections and acts as a very definite incentive to the men."

Another large creamery concern which employs 343 route salesmen and uses incentive methods is the Detroit Creamery Co. and its plan is as follows: Route salesmen are offered the choice of either of two combination salary, commission and bonus plans. One stipulates a straight salary of $30 per weeks plus 4 per cent on collection and the other $10 per week plus 10 per cent on all collections. In addition the company pays a bonus of 2 per cent on all sales exceeding an established quota. Either plan is satisfactory to the company but the latter offers greater possibilities to the more aggressive type of route salesmen. While salaries average $46.50 per week driver salesmen in this organization are capable of drawing as much as $85.

Western Maryland Dairies, Baltimore, before the adoption of its present combination salary and commission method of compensation, operated exclusively on a 10 per cent commission basis. Today, however, the plan provides for a straight salary of $8 plus a commission of 7 per cent on collections which enable the men to make $35 to $60 a week. Route salesmen of this company are not held responsible for bad accounts, it being the theory of the management that drivers in their anxiety to keep down delinquents are apt to antagonize and lose for the organization many otherwise good accounts. The company feels that where one driver may fail to make a collection, another may succeed.

An interesting variation from the above plans is a penalizing provision incorporated in the plan of another well-known Baltimore dairy concern. To assure the maximum return of empty bottles, this company charges each driver 1 cent for each bottle not returned over a minimum of 5 per cent. The plan is otherwise similar and the men can earn from $28 to $60 a week. Drivers are permitted to carry open accounts up to a fixed amount but are paid commissions on collections only.

Incentive wage methods employed by baking concerns necessarily vary because of the nature of the product. Some concerns sell bread exclusively, others bread and a variety of cakes and buns and still others sell package goods. These reasons, probably more than any others, are responsible for the lack of standardization in wage methods practiced in this vocation. For example, the Capitol Cake Co., a well-known concern in the South, which comes under the package goods classification, pays its driver-salesmen a straight salary of $35 a week, plus 10 per cent commission on all sales in excess of $350. The men frequently earn as much as $70 a week but the general average is $48. Another concern, the Maryland Biscuit Co. of Baltimore, does not feel that a merchandizing driver would fit in its plan of operation. A large and varied line of products is given as the reason for this attitude. This company pays its drivers a straight salary of $35 a week. The Ivins Baking Co., Philadelphia, is confronted with the same situation and for that reason employs a separate corps of men for selling. But rather than pay its drivers a straight salary, this company has helped its men to purchase their own trucks, the cost of operating and maintaining of which is assumed by the driver. The drivers are paid on a load basis depending on the length of the haul and the number of stops in the trip. They average from $30 to $50 a week.

Armour & Co., Chicago, wholesale meat packers, is operating under a plan which has never been changed since its inauguration many years ago. Before the plan was initiated much time was spent studying the best incentive methods of compensation for use in this business. While alert to any proposition that may be better, the management to date is convinced that its present system is entirely satisfactory. The plan comes under the classification of salary and commission and varies only in the amount of salary and commission paid in each of the 28 towns in which the plan is in effect. The following figures are based on averages. The men receive a straight salary of $35 a week, plus commissions of varying per cents on different products which bring them an average increment of about $13. The men, however, are capable of drawing as much as $75 a week.

While plans of incentive compensation vary between operators of rolling grocery stores, the average consists of a guaranteed salary of about $30 a week, plus a certain commission over $500 gross business, generally 6 per cent, and bonuses on specialties. Wages average from $50 to $70 a week.

Loose-Leaf Form Keeps Tabs on Prospects

(Continued from page 21)

the time he is working on the prospect. The salesman's copy is half the size of that shown here, because it is split in the center; the "Call Report" section is on one side of the sheet, and the other half of the record is on the back of this. This makes a handy square form which the salesman can tuck away in his wallet. The sales office copy is a form 10½ x 4 in. and the binder in which these are kept may be 18 x 11.

Now as to the form itself. The number of calls made each month is recorded in the proper space provided at the bottom; and the wasteful expenditure so often incurred by duplicating and repeating sales literature is obviated by providing a space in which the kind of literature sent out from time to time may be recorded.

The follow-up call dates are shown by means of colored signals placed over the day on which the next call is to be made. Bear in mind that these call dates are recorded also in the office of the sales manager, and can be checked up merely by opening the pages of records. As signals for any one day will all be in the same position all down the page, and on all other pages, a daily check-up on calls which should have been made is a simple matter.

IF there is a vehicle upon which Lockheed Hydraulic Four Wheel Brakes are desirable—if not positively necessary—it is the high speed truck.

Truck manufacturers and truck operators, alike, realize this in such degree that, practically everywhere in the fast truck field, Lockheed Hydraulics are accepted without question as the final answer to the braking problem. That is why the commercial car manufacturers who overwhelmingly dominate the light truck market, equip with Lockheed Hydraulics.

HYDRAULIC BRAKE COMPANY
DETROIT, MICHIGAN, U. S. A.

LOCKHEED HYDRAULIC *Four* BRAKES *Wheel*

NIGHT SERVICE

(Continued from page 23)

"Of course," Mr. Brady explained, "some of the work credited to the night shift is started by the day shift, and if the job is finished on the night side, the latter gets the credit. Hence, these figures do not give a true picture of proportionate income. Yet, considering the small amount of additional overhead required for the night shift, as well as the relative amount of labor sales per man, it is obvious that the night crew is the more profitable.

"However, the big factor is the better service we can give the truck operator at a reasonable profit to ourselves. Running a day job over into night shift, enables us to turn out rush jobs without shuffling the work and without crowding our payroll beyond the point of diminishing return. In the second place, the night hours permit the fleet operator to bring his trucks to us during off hours, and hence equipment is not idle when it should be in productive work.

"Of course, there is always the sudden breakdown to consider, which must be repaired whenever it happens, day or night, but since the fleet operator has been given night service in our shops, there is a disposition on his part to bring in his trucks at regular intervals for checking and maintaining so as to avoid the breakdown during work hours.

"When we first inaugurated night service for trucks, we placed a service salesman in the field to call on operators, and this aspect of regular maintenance during off-duty hours was his chief selling argument. The truck operator is loath to pull a truck off duty just to give it an inspection, if it seems to be running okay. However, if this inspection and service entails no loss of time, he considers it kindly, and sometimes quite enthusiastically.

"Obviously, this arrangement has many advantages. We can encourage this inspection service, coming as it does during night hours. During the day our shop is filled with passenger cars, and regardless of our disposition to give truck work the right-of-way, it is not always possible. Concentrating on trucks at night enables us to give the fleet operator undivided service.

"The fleet operator without reserve units can be served without upsetting the entire shop program, during the rush hours of the day. And he is served more economically, and hence more profitably, as well as more efficiently.

"Another unexpected source of night income is the parts department. Two men are kept busy in the parts department until 9 p. m. That is easily explained. Fleet operators who have their own shops do most of the repair work at night. The mechanic may not know what new parts he needs until he tears down the job. When he knows he can get new parts from us in a few minutes, he does not replace a worn part but gets a new part from our night department. That means more parts volume for us."

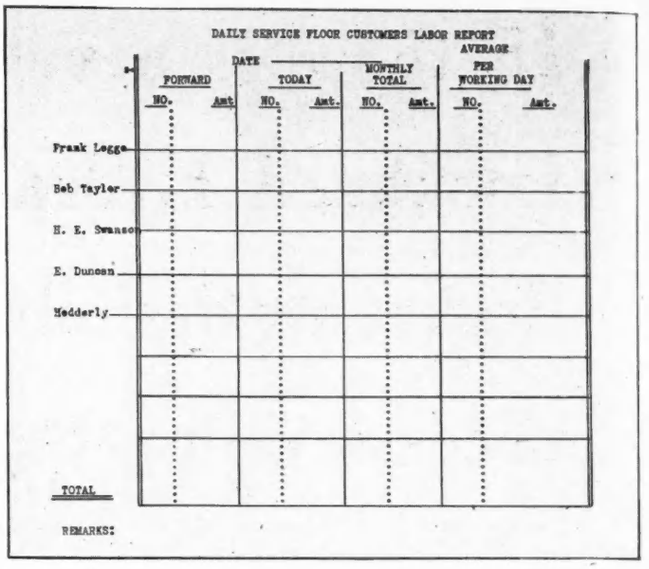
From the above, it might seem that the night shift repair crew for trucks is all roses and no thorns. Brady pointed out the thorns, for they're there. The chief difficulty is to get good mechanics to work on the night shift. However, this factor has not proven insurmountable, so far as the C. H. Wells, Inc., is concerned. Picking favorable hours has been a major contributing factor. At first the firm tried the hours from 3 p. m. to 10 p. m. for the night crew. This was very unsatisfactory, for it gave the night men neither a free afternoon nor a free evening for pleasure. Now the hours are from 5.30 p. m. to 2 a. m. This gives a few hours night rest and practically all afternoon for recreation. The men are contented with this arrangement.

Furthermore, Brady offers four monthly prizes of $10 each to high men working under the flat-rate system of charges. The men find it is easier to win these prizes on the night side . . . and that's a compensation.

With this set-up the C. H. Wells, Inc., finds its shop a source of profit instead of a subject of despair. Rather than trying to dodge maintenance work, the firm goes after it in an aggressive manner. Every day, the men in charge of the various departments of the shop are given a labor sales quota to shoot at. To make this more impressive each department head is given a report of the previous day's business, showing as well the total brought forward for the year in each division, the monthly total to date, and the average per day.

This report not only keeps the men posted, but it keeps them in a fighting mood from day to day, always with an aim to beat yesterday's record.

Constant effort is also made to sell the shop via direct mail. At regular intervals, the C. H. Wells, Inc., offers a "special" on a service job. Postal cards announcing these specials are sent through the mails to a list compiled from the shop records. The purpose is to keep customers set on repeat, and to nourish the "Wells Habit."


DAILY SERVICE FLOOR CUSTOMERS LABOR REPORT

	DATE				MONTHLY TOTAL		AVERAGE PER WORKING DAY	
	FORWARD		TODAY					
	NO.	Amt.	NO.	Amt.	NO.	Amt.	NO.	Amt.
Frank Legge								
Bob Tayler								
H. E. Swanson								
E. Duncan								
Medderly								
TOTAL								

REMARKS:

This labor sales quota service report serves to keep the servicemen on their toes

For instance, one such special offer consisted of a lubrication and tightening job which sold for $4.95. It is referred to as offer No. 495, and is limited to a short period (usually two weeks) during a slow period.

This particular "special" includes: 1. Lubricate all Alemite connections. 2. Oil and grease all brake shaft levers, etc. 3. Remove grease and adjust front wheels. 4. Drain crankcase and refill with fresh oil. Fill transmission and rear axle to proper level. 5. Tighten up entire car, which includes: tighten all body bolts; tighten all spring bolts; tighten all manifold bolts; tighten all fender bolts.

This seems like a formidable job for $4.95 when every operation is thus listed, and of course, it attracts a great many to the shop.

This particular offer is directed to passenger car owners, but similar "specials" are offered to the commercial truck operator as well. This trade is also reached via the postal card and sometimes by telephone. Brady reports that the telephone offer is more potent, because it is more personal. The fewer commercial customers make the telephone offer feasible at times.

All-Ramp Garage

(Continued from page 29)

There are no distinct floors, in the ordinary sense of that word, and the sloping sections are not mere passageways from one level to another. Each ramp extending along a side, or end, is wide enough for a center aisle with storage space on either side. Vehicles are spotted at a slight angle with the aisle, and facing it.

The truck section is on the ground level with a separate entrance. Passenger cars enter two separate doors at the other end of the building. There is a small quick repair and inspection section just inside the car entrance.

"PROFITABLE... *because a thorough study was made of our requirements!"*

AS a result of a detailed *advance* study of the haulage requirements of the *Maurice Daniels General Trucking Company* of Port Jervis, New York, this General Motors Truck (pictured with semi-trailer) is operating very profitably *and has materially reduced haulage costs,* according to Mr. Ernest Roche, one of the partners of the company.

"This unit is operated at an average speed of 40 miles per hour," he states, "and we have still to see the truck on the road that will pass it. It covers its run from Port Jervis to Newark, thence to New York, and back, much more quickly and with better service than it has ever been covered before."

He adds that the engine supplies ample power, with a reserve that has never been needed to date.

"The unit now has 35,000 miles on its speedometer and not the slightest bit of trouble has developed," he continues. "It carries a 9-ton payload five days a week, and a 12-ton payload one day each week, covering 198 miles every day, over roads that are all through mountain country with many steep grades."

* * * *

Without cost or obligation to you, the General Motors Truck representative in your city or town will make a thorough study of *your* haulage requirements. Such a survey will determine whether or not the right combination of a powerful General Motors Truck or Tractor with a trailer or semi-trailer will *multiply* the payload capacity and *profit-ability* of your haulage units. Write, phone or call. (General Motors Truck Branches, Distributors or Dealers are located in 1500 principal cities and towns.)

GENERAL MOTORS TRUCKS

GENERAL MOTORS TRUCK COMPANY, Pontiac, Mich.,
General Motors Trucks, Yellow Cabs and Coaches.

(Time payments financed through Y. M. A. C. *plan, at lowest available rates)*

ALWAYS INVESTIGATE WHAT GENERAL MOTORS HAS BEFORE YOU BUY

Truck Taxes

(Continued from page 44)

ing needed road revenue." And further: "Commercial motor transportation (does he mean common-carrier transportation?) is compared as a business with the other businesses of manufacturing, farming and merchandising, and the inference is drawn that the first should contribute *as a business* to the general revenue fund in the same manner as the latter three. In what manner are these taxed as businesses?"

In his comments by letter Mr. Howell declared that "in his analysis Professor Hunter gets completely lost after discussing business taxes in relation to other businesses, and branches off into one small unit of motor service, apparently confining his analysis to common carrier service, and tries to develop a theory for putting all motor common carrier services on a parity with railroads. If this were to be confined to a business tax as such I think we will agree that in any states or cities where business is taxed as such it would be perfectly proper to tax also the business of the motor carriers, at least of all those carriers whose rates are not subject to control. I know of no business tax applied to any business except those whose rates are not subject to any regulation. This tax, however, has nothing to do with any comparisons as between taxes on motor vehicles and railroads. It would be a pure and simple tax on the basis of business done and should be exactly proportioned to the tax on other businesses in the same territory. Where vehicles are operated as an incident to a business this would not apply, but where contract carriers are involved whose contract haul is not a part of a commercial business the tax should apply."

Participating in the discussion, Edward F. Loomis, secretary of the Motor Truck Committee of the National Automobile Chamber of Commerce, declared: "Special taxes on trucks and buses have been mounting rapidly during the last 10 years and are now reaching levels in some states so high that some operators are being forced out of business.

"While the average tax per passenger automobile in the United States is $22 a year, the average tax per motor truck is more than twice as much, or $50," Mr. Loomis asserted. "Furthermore, common carrier trucks must pay 14 times as much as the private automobile or $303 a year and buses pay 24 times as much or $512 a year."

"Owners of motor vehicles are paying over $800,000,000 a year in taxes, large share of this is contributed by the owners of commercial vehicles as compensation for their use of the highways. Further study of the proper share of each type of motor vehicle as well as of proper contribution by the public as a whole, toward meeting the nation's highway bill, is needed. Further sharp increases in truck and bus taxes without careful analysis may unfairly penalize thousands of shippers and travelers dependent upon commercial motor vehicle transportation."

The convention did not approve the majority or minority report and it was understood that studies by the committee would be continued for another year.

Carriers Prepare

(Continued from page 49)

borious and repeated inquiries brought out the statement that it is the consensus of opinion that the plan for direct collection and delivery of freight will not have been completed in time to be made effective on Sept. 25, when the constructive station and trucking in lieu of lighterage services are abandoned. Thus it is that the freight will return to pier stations and inland stations, according to information believed authentic, pending working out of complete details of the new plan. Unless . . . . And there always seems to be a qualification attendant on railroad plans.

Around the middle of the month of September the New York Board of Trade, a civic body of prominence in New York, appealed to the Interstate Commerce Commission urging that the commission permit the railroads to continue trucking in lieu of lighterage and constructive station service until such time as they can put into effect their collection and delivery aria. The commission will undoubtedly communicate this request to the railroads and ask, "Well, how about it?" What happens after that only time will tell. We may know that as you read these lines in October. The railroads may feel that "we're well enough out of the mess just departed, why prolong the agony and the mess?" Again, they may say, "Tonnage is tonnage, just as pigs is pigs. We're all going to lose tonnage in the mad scramble that follows suspension of the two now much-discussed services. Would it be better to wait until we have the new service, and then substitute it for the old services? Or would it be a better idea to let the freight go back to pier stations; let the consignees and shippers pay higher trucking rates, and then, coming along with our new service, with cheaper cartage, would not the public fall on our necks and weep for sheer gratitude, even though the rates for direct collection and delivery were a little higher than for constructive station and trucking in lieu of lighterage?"

We agree that it's all pretty involved, but it certainly follows that if direct collection and delivery gets under way in New York, it will spread throughout the country with the speed of fire in a dry forest. Thus, it's nice to know something about it. At least, we think it is. However, sitting on the sidelines here in New York, we tremble ever so gently when we think of the pitched battles that are going to be fought by the truckmen to get these store-door contracts. The late war will be a mere tea fight in scope and bitterness.

A final word. We give you, for whatever you are able to make out of it, the exclusive statement of J. W. Roberts anent this new form of service. Said Chairman Roberts on Sept. 11:

"As chairman of the Presidents' Committee let me say that the committee is working conscientiously to hit upon a form of direct collection and delivery service which will be suitable for New York. We are doing everything possible to reach a rapid and satisfactory conclusion. When this service will become effective, if it ever will, cannot be predicted at this time. I do not believe, either, that any railroad will put it into effect in advance of general adoption by all the roads." Further than that, deponent sayeth not!

Truck Trailers

(Continued from page 31)

first or second unit in a train. Others prefer four-wheel truck and four-wheel trailer combinations.

Manufacturers owning more than one plant may operate their own equipment for inter-plant haulage. In this group may be mentioned Continental, which has been hauling by truck and trailer between Detroit and Muskegon for the past 10 years. A truck, semi-trailer and four-wheel trailer comprise the trains which leave Detroit and Muskegon at 4.30 p. m. and reach destinations at 6 o'clock the next morning. The cost per ton of freight delivered is $3.42, compared with freight rate of $7.40 per ton. To this saving the reduction in handling should be added, with the result that express service provided by truck and trailer costs one-half as much as freight service, figuring both methods from platform to platform.

Use of light trucks with tank body semi-trailers, recently inaugurated by several oil companies, is a development which may have far-reaching effects on motor transportation in this field. Tanks hold about 800 gal., constituting a pay load of about 5000 lb. The power units, of course, are of less carrying capacity than trucks adapted to carry this load.

S. A. White, of the National Refining Co., who conducted one of these tests, is quoted as saying, "We are convinced that we can effect a saving of approximately 50 per cent in the initial power units by purchasing light truck-tractors and tank trailers instead of heavy tank trucks such as we have used in the past."

This invasion of the field of the heavy duty truck by a light truck and trailer combination is another illustration of the truth of the oft-repeated statement that no transportation problem is ever solved permanently. Business conditions change, manufacturing methods are altered, automotive design moves ahead. All have their effect on transportation. The field of trailer application likewise is subject to change. Leaders in motor highway transportation are keeping in touch with all developments in this field.

Commercial Car Specifications—Corrected Monthly

The Specifications, Chassis Prices, Etc., Are Corrected Each Month From Data Supplied Direct by the Makers. Gasoline Tractor-Trucks Will be Found at the End of Gasoline Commercial Cars

* Changes
† New Models

These Chassis Which Are Sold and Recommended for Bus Use Are Designated in the Following Table by Reference Sign (§) in Front of the Name

(Where prices are not given it is because we have been unable to get them from authoritative sources)

Key of abbreviations page 78

Trade Name and Model	General: Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size: Front (inches)	Tire Size: Rear (inches)	Engine: Make and Model	Engine: Number of Cylinders Bore and Stroke	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
1000 Pounds																																
Chevrolet Int. Com	400	107	107	B 4.50/20	B 4.50x20	Own	6-3½x3¾	26.3	H	PG	Non	Har	Car	P	D-R	D-R	P. Own	Own Int.	U	3	Own	Own Int.	S	½	3.82	12.68	E*	Own Int.	Own	.....	26⅝	1815
Dodge Brothers	525	109	109	B 29x4.75	B 29x4.75	Own	4-3⅝x4¼	21.0	L	PC	Non	McC	Car	V	D-R	N-E	P. Roc	Own	U	3	Own	Own	S	½	4.7	14.28	G	Own	Gem	.....	.....	1900
Durant Com. Ch	495	107	.....	B 28x4.75	B 28x4.75	Con	4-3⅝x4¼	18.2	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	A	3	Spi	Own	S	½	4.87	16.16	E*	Own	Own	.....	.....	1650
Fargo Packet	595	.....	.....	B 5.00x19	B 5.00x19	Own	6-3x4½	21.6	L	FP	Non	Own	Car	V	D-R	D-R	P. Own	Own	U	3	Own	Own	S	½	4.7	.....	E†	Own	.....	.....	.....	1935
Gen. Mot. T11-1001	625	109⅝	.....	B 5.00/19	B 5.50/19	Pontiac	6-3⅛x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Pontiac	U	3	M.M.	Pontiac	S	½	4.42	14.67	G*	Pontiac	Jac	.....	.....	1885
Reo Speed Wagon Jr.	895	115	.....	B 28x5.25	B 28x5.25	Con 16E	6-3⅝x4	27.3	L	PC	Non	Har	Sch	V	D-R	D-R	P. B&B	W-G	U	3	Spi	Sal	S	½	4.7	14.63	E†	Sal	Ros	.....	.....	2290
*Whippet 96A	405	103¼	103¼	B 28x4.75	B 28x4.75	Own	4-3½x4¾	15.6	L	PC	Non	Own	Til	V	A-L	A-L	P. B&B	Own	U	3	M-M	Own	S	½	4.55	14.7	H*	Own	Own	.....	26	1691
1500 Pounds																																
*Dodge Brothers	693	124	124	B 33x4½	B 33x4½	Own	4-3⅝x4¼	21.0	L	PC	Non	Fed	Car	V	D-R	D-R	P. B&B	W-G	U	3	Spi	Own	S	½	5.63	21.16	G	Own	Han	66⅞	31	2285
†Dodge Brothers	725	124	124	B 30x5	B 30x5	Own	4-3⅝x4¼	21.0	L	PC	Non	Fed	Car	V	D-R	D-R	P. B&B	W-G	U	3	Spi	Own	S	½	5.63	21.16	G	Own	Han	66⅞	31	2380
†Dodge Brothers	825	124	124	B 30x5	B 30x5	Own	6-3⅜x3⅞	27.3	L	PC	Non	Fed	Zen	V	N-E	N-E	P. B&B	W-G	V	3	Spi	Own	S	½	5.11	19.21	G	Own	Han	66⅞	31	2480
*Dodge Brothers	793	124	124	B 33x4½	B 33x4½	Own	6-3⅜x3⅞	27.3	L	PC	Non	Fed	Zen	V	N-E	N-E	P. B&B	W-G	U	3	Spi	Own	S	½	5.11	19.21	G	Own	Han	66⅞	31	2385
*Dover	595	110½	110½	B 30x5	B 30x5.50	Own Super6	6-2¾x4½	18.2	L	SP	Non	Har	Mar	V	A-L	A-L	D Own	Own	U	3	Spi	Own	S	½	5.11	19.21	G	Own	Han	66⅞	31	2385
Fargo Clipper	725	.....	.....	B 5.50/18	B 5.50/18	Own	6-3½x4¼	23.4	L	FP	Non	Own	Str	V	D-R	D-R	P. Own	Own	U	3	Spi	Own	S	½	5.6	18.16	K	Own	Gem	50⅝	25⅝	1965
Int. Harvester Spec. Del	....	124	124	B 30x5.25	B 30x5.25	Wau XA	4-3½x4½	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	Roc	M.M.	S	3	M-M	Eat 502	S	½	4.45	15.1	H*	Eat 200F	Ros	86⅝	50⅝	2200
Kleiber	1170	121	.....	B 30x5.50	B 30x5.50	Con	6-2⅞x4¾	19.8	L	PC	Non	Fed	Str	V	D-R	D-R	B-L	B-L 20	U	3	Spi	Tim 52604	B	½	4.9	.....	H	Tim 11703H	Ros	84	86	2400
Rugby Fast Mail	725	110	.....	B 29x5.00	B 29x5.00	Con	6-2⅞x4¼	19.8	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	U	3	Spi	Own	S	½	4.45	14.8	E*	Own	Own	.....	.....	1760
Stewart Buddy	895	118	118	B 30x5.50	B 30x5.50	Lyc	6-2⅞x4¾	19 8	L	PC	Non	Own	Str	V	D-R	D-R	D. Own	Own	U	3	Own	Own	S	½	5.6	17.3	G*	Own	Gem	77½	40½	2694
Studebaker GN-P	845	115	.....	B 19x6.00	B 19x6.00	Own	6-3⅜x4½	27.3	L	PC	Non	Lon	Str	P	D-R	D-R	D. Lon	W-G	U	3	Spi	Own	S	½	4.7	14.3	K	Own	Ros	.....	.....	.....
1 Ton																																
Acme 17	....	136	.....	P 30x5	P 30x5	Con 29L	6-2⅞x4¾	18.2	L	PC	Non	Per	Til	V	A-L	A-L	P. B&B	Ful WO	U	4	Blo	Tim 52000H	S	F	5.83	35.9	G	Tim 11703H	Ros	108	58	3000
*Acorn 20P	1185	132	.....	P 30x5	P 30x5	Con 16C	6-3¼x4⅝	27.3	L	PC	Non	Chi	Str	G	A-L	A-L	D. Ful	Ful DU10	U	3	Spi	.....	B	½	4.5	.....	.....	.....	Ros	.....	.....	3500
†Atterbury A	....	132	145	P 30x5	P 30x5	Lyc WRG	6-2⅞x4¾	18.2	L	PC	Non	Fed	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim 52000H	S	F	6.83	43.5	G	Tim 11703H	Gem	98½	55	3000
Biederman	....	138	.....	P 30x5	P 30x5	Con 8R	6-3⅜x4½	27.3	L	PC	Non	Own	Zen	G	D-R	A-L	D. B-L	B-L 31	U	3	Spi	Cla	B	½	5.5	27.	A†	Shu	Ros	92	.....	3200
Clydesdale 16	....	140	.....	P 34x5	P 34x5	Con S4	4-4¼x4½	28.9	L	FP	Non	Own	Zen	V	Bos-A	Bos-A	D. B-L	B-L 31	U	3	Spi	Tim 5620	B*	F	6.43	30.86	A	Tim 1250	Ros	.....	.....	3450
Commerce 20Y	1600	142	.....	P 30x5	P 30x5	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Col 54028	S	F	5.1	25.5	G	Col 5530	Han	103½	63	3900
Denby 41	....	128	.....	P 34x5	P 34x5	Her O	4-4x5	25.6	L	PC	.....	Lon	Zen	G	A-L	A-L	D. Ful	Ful	U	3	U-P	Col 54005	S	¾	5.8	23.2	..	Con	Ros	.....	.....	3315
Diamond T151	1090	132	.....	P 30x5	P 30x5	Con 18E	6-3⅜x4	27.3	L	PC	Non	G&O	Zen	G	A-L	A-L	D. Cov	Cov	U	3	Spi	Col	S	½	5.12	18.6	G†	Col 3203	Ros	96	.....	3200
Dodge Brothers	1110	140	140	P 32x6	P 32x6	Own	6-3⅝x3⅞	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	½	5.7	26.40	G	Own	Han	95¾	59¾	2995
Dodge Brothers	1065	140	140	P 30x5	P 30x5	Own	6-3⅜x3⅞	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	½	5.1	23.76	G†	Own	Han	95¾	59¾	2950
Dodge Brothers	1100	140	140	P 33x5	P 33x5	Own	6-3⅝x3⅞	27.3	L	PC	Non	Fed	Ste	V	N-E	N-E	P. B&B	W-G	U	4	U-P	Own	S	½	5.67	26.40	G	Own	Han	95⅝	59⅝	2985
Dodge Brothers	745	133	133	B 20x6.00	P 32x6	Own	4-3⅝x4¼	21.0	L	PC	Han	Fed	Car	V	D-R	D-R	P. B&B	Cla	U	4	U-P	Own	S	½	5.6	36.1	G	Own	Han	85⅞	50	2595
Dodge Brothers	760	133	133	P 30x5	P 30x5	Own	4-3⅝x4¼	21.0	L	PC	Han	Fed	Car	V	D-R	D-R	P. B&B	Cla	U	4	U-P	Own	S	½	5.6	36.1	G	Own	Han	85⅞	50	2565
Dodge Bothers	845	133	133	B 20x6.00	P 32x6	Own	6-3⅝x3⅞	27.3	L	PC	Han	Fed	Zen	V	N-E	N-E	P. B&B	Cla	U	4	U-P	Own	S	½	5.1	33.4	G	Own	Han	85⅞	50	2690
Dodge Brothers	860	133	133	P 30x5	P 30x5	Own	6-3⅝x3⅞	27.3	L	PC	Han	Fed	Zen	V	N-E	N-E	P. B&B	Cla	U	4	U-P	Own	S	½	5.1	33.4	G	Own	Han	85⅞	50	2665
Fargo Freighter	795	133	.....	B 6.00x20	B 32.6	Own	6-3x4½	21.6	L	....	Non	Own	Str	V	D-R	D-R	.....	.....	U	4	U-P	Cla	..	½	5.67	.....	E†	.....	Han	96	49	2725
Federal 3F6	....	127	139	P 30x5	P 30x5	Con 34L	6-2⅞x4¾	19.8	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own	U	3	Pet	Cla B364	B	½	6.38	23.27	G†	Cla F208	Gem	95	51	2800
Federal 3FW	....	127	139	P 30x5	P 30x5	Wau XA	4-3½x4½	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	P. B&B	Own	U	3	Pet	Cla B364	B	½	6 38	23.27	G†	Cla F208	Gem	95	51	2725
*Fisher Jr. Express	....	140	140	P 30x5	P 30x5	Con 31L	6-2⅞x4¾	19.8	L	FP	Non	Lon	Zen	V	A-L	A-L	. Lon	M.M L U	U	3	Blo	Tim 52000H	S	½	5.83	.....	E	Tim 11703H	Ros	108	73⅛	3250
†Gen. Mot. T19-2001	1015	127¾°	145¾	P 32x6	P 34x7	Pontiac	6-3⅛x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Blo	Col 54028	S	F	5.1	25 5	G	Col 5530	Han	103½	63	3900
†Gen. Mot. T19-2002	975	127¾°	145¾	P 30x5	DP30x5	Pontiac	6-3⅛x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	½	6.14	34.11	G*	Tim 11710N	Jac	91	52¼	2950
†Gen. Mot. T19-2003	895	127¾°	145¾	B 5.50x20	P 32x6	Pontiac	6-3⅛x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	½	6.14	34.11	G*	Tim 11710N	Jac	91	52¼	2875
Gramm-Bernstein 10	....	129	146	P 30x5	P 30x5	Lyc CT	4-3¾x5	22 5	L	PC	Non	Own	Zen	G	A-L	A-L	D. Mun	Mun T23	U	4	Spi	Tim 5261N	S	½	6.14	34.11	G*	Tim 11710N	Jac	91	52¼	2800
Hahn 7H	....	124	.....	P 30x5	P 30x5	Con 29L	6-2⅞x4¾	19.8	L	FP	Non	G&O	Zen	V	A-L	A-L	P. B&B	W-G	U	3	Blo	Tim 52000H	B	F	.....	.....	I	Tim 11703H	Ros	86	.....	3100
Indiana 200	....	137	137	P 30x5	P 32x6	Wis F	6-3¼x4¼	25.3	H	PC	Non	Lon	Zen	V	A-L	A-L	P. B&B	B-L 20A	U	3	Spi	Col 36000	B	½	5.12	21.3	G*	Col 3200	Ros	96	56	3435
Int. Harv'tr 6 Sp. Spec.	....	124	124	P 30x5	P 30x5	Wau XA	4-3½x4½	19.6	L	PC	Non	Lon	Zen	V	D-R	D-R	. Roc	M.M.	U	3	M.M.	Eat 1124*	S	½	5.29	52.6	H*	Eat 430F	Ros	86⅝	50⅝	2430
Kissel	....	140	.....	P 34x5	P 34x5	Own	4-3⅞x5½	24.1	L	SP	Non	McC	Str	V	D-R	D-R	D. W-G	W-G T38L	U	3	Spi	Tim 6253	W	F	5.16	18.88	A*	Tim 1452	Ros	.....	.....	3780

Key of abbreviations page 78

Trade Name and Model	General					Engine								Electrical System		Clutch	Gearset			Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase		Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size: Front (inches)	Tire Size: Rear (inches)	Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Type and Make	Make and Model	Location	No. of Forward Speeds	Universals (Make)	Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low				Cab to rear of frame	Cab to rear axle	
1 Ton—Cont'd																														
Kleiber	1450	140	140	P 30x5	P 30x5	Con	6-3⅜x4	27.3	L	PC	Nor.	Own	Str	G	D-R	D-R	D. B-L	B-L 20	U	3	Spi	Tim 52000H	B	½	5.36	.....	B†	Tim 12307	Ros	100	64	3000
Larrabee 20	.....	143	160	P 30x5	P 30x5	Con 16C	6-3⅜x4½	27.3	L	PC	Non	Per	Zen	G	D-R	D-R	D. B-L	B-L	U	3	Spi	Col	B	½	.....	.....	E†	Col	Ros	96	54⅛	3745
Le Moon HB10	1500	130	140	P 32x6	P 32x6	Con 16C	6-3⅜x4½	27.3	L	FP	Non	Chi	Str	G	D-R	DJ	D. B-L	B-L 20	U	3	Spi	Tim 52000H	B	½	5.6	18.7	B	Tim 11703H	Ros	96	66	3000
Luedinghaus	.....	130	172	P 30x5	P 30x5	Wau V	4-4x5	25.6	L	PC	Non	Own	Zen	G	Eis	A-L	D. Ful	Ful SU10	U	3	.....	Tim 5260	B	½	.....	.....	A*	Shu 5410	Ros	120	72	2850
Relay 20B	1700	142	.....	P 30x5	P 30x5	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Own 20	R	F	5.14	25.7	E	Col 5530	Han	103½	63	4100
Reo DA	995	127	138	P 30x5	P 30x5	Con 16E	6-3⅜x4	27.3	L	PC	Non	Har	Sch	V	D-R	D-R	P. B&B	W-G	U	3	Pet	Own	S	16	5.22	18.47	E†	Own	Ros	.....	.....	2755
Reo DC	1075	138	.....	P 30x5	P 30x5	Con 16E	6-3⅜x4	27.3	L	PC	Non	Har	Sch	V	D-R	D-R	P. B&B	W-G	U	3	Pet	Own	S	16	5.22	18.47	E†	Own	Ros	.....	.....	2850
Rugby Exp	975	128	.....	P 30x5	P 30x5	Con	6-2¾x4¾	18.2	L	PC	Non	Fed	Til	V	A-L	A-L	P. Own	Own	A	4	Spi	Sal	S	16	5.39	22.4	E*	Sal	Gem	87	49½	2510
Sanford S	.....	120	.....	P 30x5	P 30x5	Con 31L	6-2⅞x4¾	19.8	L	PC	Non	Fed	Str	V	D-R	D-R	D. B-L	B-L 20	U	3	Blo	Eat	B	½	5.33	22.	H	Eat	Ros	75½	35½	2550
Selden 7	.....	124	124	P 30x5	P 30x5	Con 29L	6-2⅞x4¾	19.8	L	FP	Non	Own	Zen	G	D-R	A-L	P. B&B	Ful	U	3	.....	Tim 52000	S	½	5.8	.....	G	Tim 11703H	Ros	96	.....	3100
Service 20Y	1600	142	.....	P 30x5	P 30x5	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	P. B-L	B-L 20	U	4	Blo	Col 54028	S	F	5.1	25.5	E	Col 5530	Han	103½	63	3900
Stewart Buddy	995	128	138	P 30x5	P 30x5	Lyc	6-2⅞x4¾	19.8	L	PC	Non	Fed	Str	G	D-R	D-R	D. W-G	W-G	U	3	Spi	Sal	S	1½	5.6	17.1	G*	Own	Gem	89⅜	50¾	2806
Studebaker GK-N	1095	146	.....	P 30x5	P 30x5	Own	6-3⅜x4⅝	27.3	L	PC	Non	McC	Str	P	D-R	D-R	D. Lon	Own	U	3	Spi	Own	S	1½	4.64	13.8	G	Own	Ros	90⅜	62⅜	.....
Studebaker GN-S	1045	130	.....	B 20x6.00	P 30x5	Own	6-3⅜x4⅝	27.3	L	PC	Non	McC	Str	P	D-R	D-R	D. Lon	Own	U	3	Spi	Own	S	1½	4.64	13.8	G	Own	Ros	73⅞	45⅝	.....
United 16	.....	122½	.....	P 32x4½	P 32x4½	Wau X	4-3½x4½	19.6	L	PC	Non	Per	Zen	G	A-L	A-L	P. B&B	W-G T 71	U	3	Blo	Cla B-365	S	½	5.66	17 0	A	Shu 5400	Ros	96	57	2400
United 16C	.....	122½	.....	P 32x4½	P 32x4½	Con 29L	6-2⅞x4¾	19.8	L	PC	Non	Per	Til	V	A-L	A-L	P. B&B	W-G T 71	U	3	Blo	Cla B-365	S	½	5.66	17.0	A	Shu 5400	Ros	94	55	2500
§U. S. U.	1850	138	162	P 34x5	P 34x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	Own	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Cla B-501	B	½	6.25	30.0	A*	Shu 350	Lav	108	70	3400
Wachusett S	.....	152	152	S 34x5	S 34x5	Con 8R	4-3¾x5⅛	27.3	L	PC	Non	G&O	Zen	V	Bos-A	Bos-A	D. B-L	B-L 30	U	3	Spi	Tim 5511	W	¾	5.5	22.5	...	Tim 1250	Ros	120	84	3300
White 15B	1545	133½°	150	P 30x5	P 30x5	Own GKA	4-3¾x5⅛	22.5	L	PG	Non	Own	Zen	V	L-N	L-N	P. Own	Own 15	A	4	Spi	Own 15B	S	½	5.36	18.6	A*	Own 15	Own	96⅞	57⅜	3242
White 60	1850	138°	157	P 30x5	P 30x5	Own 2A	6-3½x4½	29.4	L	FP	Non	Own	Zen	V	D-R	D-R	P. Own	Own 3B	U	3	Spi	Own 4C	S	½	4.73	17.86	G†	Own 4D	Han	112	58¾	3562
Willys-Knight T-100	895	130	130	P 30x5	P 30x5	Own	6-2⅛x3⅞	20.7	X	PC	Non	Own	Til	V	A-L	A-L	P. Roc	W-G	U	3	M.M.	Tim 5260	S	½	6.14	26.24	H*	Own	Own	89	49	2775
World. D-60	.....	143	151	P 32x6	P 32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Mod	Zen	V	A-L	A-L	P. Lon	Ful	U	4	Blo	Tim	S	F	5.83	36.0	G†	Tim	Ros	108	60	3600
1¼ Ton																														
Biederman	.....	154	154	P 32x6	P 32x6	Con 8R	6-3⅜x4¼	27.3	L	PC	Han	Own	Zen	G	D-R	A-L	D. B-L	B-L 31	U	3	Spi	Cla	B	½	7.2	35.0	A*	Shu	Ros	104	.....	3600
Brockway Junior	.....	130	130	P 30x5	P 30x5	Wis C	4-3¾x5	22.5	L	PC	Non	G&O	Zen	V	A-L	A-L	P. B&B	B-L 20	U	3	Spi	Col 36020	B	½	5.12	20.84	G*	Col 3204	Ros	96	56	3100
Brockway JF	.....	137	.....	P 30x5	P 30x5	Wis F	6-3¼x4¼	25.3	H	PC	Non	G&O	Zen	V	A-L	A-L	P. B&B	B-L 20	U	3	Spi	Col 36020	B	½	5.12	20.84	G*	Col 3221	Ros	.....	.....	3450
Clinton 20B	.....	150	Opt.	P 30x5	P 30x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	Per	Zen	V	Spl	D-R	D. B-L	B-L 31	U	3	Blo	Cla B501	B	½	6.28	29.5	A*	Shu 5405	Ros	Opt.	Opt.	3750
Clydesdale 10A	.....	154°	.....	P 34x5	P 34x5	Con S4	4-4¼x4½	28.9	L	FP	Non	Own	Zen	V	Bos-A	Bos-A	D. B-L	B-L 31	U	3	Spi	Tim 6258	W	½	6.75	32.4	A*	Tim 1250	Ros	.....	.....	3250
Corbitt 620	.....	137	150	P 32x6	P 32x6	Con 18E	6-3⅜x4	27.3	L	FP	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 20	U	4	Spi	Tim 52000H	S	F	5.83	29.15	G†	Tim 11703H	Ros	108	64	3380
Day-Elder MF	1345	131	131	P 30x5	P 30x5	Con 16C	6-3⅜x4⅝	27.3	L	FP	Non	G&O	Zen	V	D-R	D-R	D. B-L	B-L 20A	U	3	Spi	Tim 52000H	S	F	5.83	24.19	A	Tim 11703H	Ros	103½	56	3100
Defiance RU-45	.....	145	160	P 32x6	P 32x6	Con	6-3½x4½	25.3	L	FP	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful KU	U	4	Spi	Cla 365	S	½	5.66	36.8	A	Shu	Gem	120	.....	2910
Fageol 100	1300	156°	168	B 32x7.00	B32x7.00	Wau XA	4-3½x4½	19.6	H	PC	.....	Lon	Zen	V	D-R	D-R	D. B-L	B-L 20	U	4	Spi	Tim 52000	B	F	5.57	27.85	G	Tim 11703H	Ros	120	85½	3675
†Gen. Mot. T19-2001	1015	127¾°	145¾	P 32x6	P 34x7	Pontiac	6-3⅜x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	½	6.14	34.11	G*	Tim 11710N	Jac	91	52¼	2950
†Gen. Mot. T19-2002	975	127¾°	145¾	P 30x5	DP30x5	Pontiac	6-3⅜x3⅞	26.3	L	PC	Non	Lon	Mar	O	D-R	D-R	P. Own	Mun	U	4	Spi	Tim 5261N	S	½	6.14	34.11	G*	Tim 11710N	Jac	91	52¼	2875
Gotfredson B24	.....	131	160	P 30x5	P 30x5	Bud WTU	4-3¾x5⅛	22.5	L	PC	Non	McC	Zen	V	D-R	D-R	P. B&B	B-L 20A	U	3	Spi	Tim 52000H	B	½	5.83	24.19	G	Tim 11704H	Ros	.....	.....	3200
Gotfredson RB-26	.....	Opt	.....	P 30x5	P 30x5	Own	6-3⅜x4	27.3	L	PC	Non	Lon	Joh	V	D-R	D-R	D. B-L	B-L 20-4	U	4	Spi	Tim 52000	B	F	Opt	Opt.	I	Tim 11703	Ros	.....	.....	.....
Gramm-Bernstein 10	.....	129	146	P 30x5	P 30x5	Lyc CT	4-3¾x5	22.5	L	PC	Non	Own	Zen	G	A-L	A-L	D. Mun	Mun T23	U	3	Pic	Sal A	B	¾	5.85	23.4	d*	Sal D	Ros	97	57⅜	3020
Indiana 11X	.....	120	120	P 30x5	P 32x6	Her OX	4-4x5	25.6	L	PC	Non	McC	Str	G	A-L	A-L	P. B-L	B-L 31	U	3	Spi	Cla B365	S	½	5.1	24.48	A	Shu 5405	Ros	52	44⅛	3350
Indiana 11	.....	129½°	165½	P 30x5	P 32x6	Her OX	4-4x5	25.6	L	PC	Non	McC	Str	G	A-L	A-L	P B&B	B-L 31	U	3	Spi	Cla B365	S	½	5.1	24.48	A	Shu 5405	Ros	99	54⅛	3500
Int. Harvester S-24	.....	130		P 30x5	P 30x5	Lyc CT	4-3¾x5	22.5	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	U	3	M.M	Eat 1002	S	½	5.33	21.3	H*	Eat 430F	CAS	94	51½	3200
Int. Harvester S-26	.....	130		P 30x5	P 30x5	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Lon	Zen	V	D-R	D-R	P. Own	Own	U	3	M.M.	Eat 1002	S	½	5.33	21.3	H*	Eat 430F	CAS	94	51½	3250
Moreland Ace	1195	134	134	B32x6.75	B32x6.75	Con 34L	6-2⅞x4¾	19.8	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 20	U	4	Cle	Tim 52000H	S	F	5.83	29.17	G†	Tim 11703H	Ros	104	56	3000
Republic Fleetmaster	.....	144	.....	B 6.00 20	P 32x6	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	G&O	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Cla	B	½	5.6	28.3	G†	Cla	Ros	111	62½	3300
Republic 75-6	.....	128½	.....	P 30x5	P 30x5	Lyc 4SL	6-3¼x4½	25.3	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	½	5.33	21.3	A*	Eat	Han	98	53¼	3150
Republic 75	.....	124°	.....	P 30x5	P 30x5	Lyc CT	4-3¾x5	22.5	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	3	U-M	Eat	B	½	5.33	21.3	A*	Eat	Han	98	53¼	3000
Sanford SE	.....	130	.....	P 30x5	P 30x5	Con	6-2⅞x4¾	19.7	..	FP	Non	Own	Str	P	D-R	D-R	D. B-L	B-L	U	3	Blo	Eat	B	½	5.38	22.1	E*	Eat	Ros	86¾	46½	2650
Sterling DB7-64-18E	.....	137	150	P 32x6	P 32x6	Con 18E	6-3⅜x4	27.3	L	FP	.....	Per	Zen	V	.....	D-R	D. B-L	B-L 20	U	4	Har	Tim 52000H	B	S	5.82	29.13	G	Tim 11703H	Ros	104	60	3355
Stewart 16	1295	130	160	P 32x6	P 32x6	Lyc CT	4-3¾x5	22.5	L	FP	Non	Own	Str	G	D-R	D-R†	D. Ful	Ful SU-1	U	4	Spi	Cla B-365	S	¾	5.6	22.0	G	Col 3008	Gem	95¼	48⅝	3326
Stewart 16X	1295	130	160	P 32x6	P 32x6	Lyc	6-3¼x4½	25.3	L	FP	Non	Own	Str	G	D-R	D-R	D. Ful	Ful	U	4	Spi	Cla	S	½	5.6	22.0	G*	.....	Ros	94¾	48⅝	3326
Studebaker GN-N	1245	146	.....	P 30x5	P 32x6	Own	6-3⅜x4⅛	27.3	L	PC	Non	McC	Str	P	D-R	D-R	D. Lon	Clark	U	4	Spi	Clark	S	½	5.10	33.5	G	Own	Ros	89⅜	61⅜	.....
United 20	.....	128	.....	P 30x5	P 30x5	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	G	A-L	A-L	D. B-L	B-L 20B	U	3	Blo	Cla B-365	B	½	5 66	17.00	A	Shu 5400	Ros	95⅝	52⅜	2900
United 20C6	.....	128	.....	P 30x5	P 30x5	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Per	.....	V	A-L	A-L	D. B-L	B-L 20B	U	3	Blo	Cla B-365	B	½	5 66	17.00	A	Shu 5400	Ros	91¾	48½	2900
Valley	1295	132	142	P 32x5	P 33x5	Her	4-4x5	25.6	..	FP	Non	Har	.....	V	D-R	D-R	D. Ful	Ful	U	3	Own	Own	S	¼	4.46	Opt	...	Own F	.....	.....	.....	.....
Victor 30	1525	131	180	P 30x5	P 30x5	Con 18E	6-3⅜x4	27.3	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Cov	Cov JUC	U	3	U-M	Tim	S	¼	5.1	20.4	G†	Tim	Ros	.....	.....	3000
White 57	2725	146°	157½	P 32x6	P 32x6	Own GRC	4-4x5¾	25.6	L	FP	Own	Own	Zen	V	L-N	L-N	P. Own	Own GRBB	U	4	Spi	Own 57	S	½	4.67	19.3	A~	Own 57	Own	100⅛	62⅛	3774
1½ Ton																														
Acme 24	.....	144	.....	P 30x5	P 30x5	Con S4	4-4¼x4½	28.9	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Col 54000	S	F	5.85	28.2	A	Col 5400	Ros	102⅝	66⅝	3450
Acme 26	.....	144	.....	P 30x5	P 30x5	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Per	Str	V	A-L	A-L	D. B-L	B-L 31	U	3	Blo	Col 54000	S	F	5.85	28.2	A	Col 5400	Ros	102⅝	66⅝	3450
*Acorn 30	2300	144	.....	S 34x4	S 34x6	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Str	G	Bos-R	.....	D. Ful	Ful SU 12	U	3	Spi	Cla B720	S	½	Opt.	Opt.	A	Shu 350	Ros	.....	.....	4400
*Acorn 30-P	2300	144	.....	P 32x6	DP32x6	Con 16C	6-3⅜x4⅝	27.3	L	PC	Non	Chi	Str	G	A-L	A-L	D. Ful	Ful SU 12	U	3	Spi	Cla B365	S	½	Opt	Opt	A	Shu 350	Ros	.....	.....	.....
§Armleder 30	.....	148°	187	S 34x4‡	S 34x6‡	Her OX	4-4x5	25.6	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71⅝	4400
Armleder 30B	.....	150°	188	S 34x4‡	S 34x6‡	Bud KBU-I	4-4x5¼	25.6	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71⅝	4400
Armleder 30-6	.....	153°	192	S 34x4‡	S 34x6‡	Bud HS6	6-3⅜x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Spi	Tim	W	½	7.25	39.0	A*	Tim	Ros	121	71⅜	4500

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Key of abbreviations page 78

Trade Name and Model	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	General: Tire Size Front (inches)	General: Tire Size Rear (inches)	Engine: Make and Model	Engine: Number of Cylinders Bore and Stroke	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Gearset: Make and Model	Gearset: Type and Make	Gearset: Clutch	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Front Axle Make and Model	Steering Gear (Make)	Brakes, Location	Cab to rear of frame	Cab to rear axle	Chassis Weight (lbs.) (stripped)
Republic Fleetmaster	.....	144	.....	B 6.00 20	P 32x6	Lyc 4SL	6-3½x4½	25.3	L	PC	Non	G&O	Zen	V	A-L	A-L	D-R	B-L	D. B-L	U	4	Spi	Cla	B	½	5.6	28.3	Cla	Ros	111	62½	.....
Republic 76	.....	145½°	.....	P 30x5	P 32x6	Lyc CT	4-3½x5	22.5	L	PC	Non	Own	Zen	V	A-L	A-L	D-R	Ful	D. Ful	U	3	U-M	Eat	B	½	5.33	21.3	Eat	Han	122	74¼	.....
Republic 76-6	.....	150½°	.....	P 30x5	P 32x6	Lyc 4SL	6-3½x4½	19.8	L	FP	Non	Fed	Str	V	D-R	D-R	D-R	B-L 20	D. B-L	U	3	Blo	Eat	B	½	5.33	21.3	Eat	Han	122	74¼	3500
Sanford A	.....	130	.....	P 32x6	P 32x6	Con 31L	6-3½x4½	27.3	L	FP	Non	You	Str	O	D-R	D-R	D-R	W-G	D. B-L	U	4	Spi	Tim	B	½	5.83	31.67	Eat	Ros	86¾	46½	2900
Selden 17 Pacemaker	.....	140	.....	P 32x6	P 32x6	Con 18E	6-3½x4½	27.3	L	FP	Non	Own	Str	V	D-R	D-R	D-R	B-L 35	D. B-L	U	4	Spi	Tim	B	½	5.83	31.19	G	E*	Ros	.....	.....	3750
Schacht Series 15	.....	160	.....	P 32x6	P 32x6	Con 18E	6-3½x4½	27.3	L	FP	Non	Own	Zen	V	A-L	A-L	A-L	B-L 20	D. B-L	U	4	Blo	Tim 63702	B	½	5.1	28.1	Shu 310	Ros	110	66	.....
Selden 17 Pacemaker	.....	142	.....	P 30x5	P 32x6	Bud DS6	6-3½x4½	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	A-L	B-L 20	D. B-L	U	4	Blo	Tim 54000	B	½	5.85	28.1	Shu 310	Han	144	90	4700
Service 30Z	2990	168	.....	DP34x5	Bud DS6	Bud HS6	6-3½x4½	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	A-L	B-L 20	D. B-L	U	4	Blo	Tim 54000H	B	½	5.85	28.1	Shu 350	Han	144	90	4700
Service S11Y	1900	162	.....	P 30x5	DP30x5	Bud HS6	6-3½x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	A-L	B-L 20	D. B-L	U	4	Blo	Tim 54000H	B	½	5.85	28.1	Shu 350	Han	144	90	4700
Sterling DB9-64-16C	.....	139	.....	P 34x7	P 34x7	Con 16C	6-3½x4½	27.3	L	FP	Non	Per	Zen	V	D-R	D-R	D-R	B-L 20	D. B-L	U	4	Har	Tim 54000H	B	½	5.82	29.13	G	E*	Ros	133½	83	4300
Stewart 28X	1495	136	.....	P 30x5	DP30x5	Lyc	6-3½x4½	25.3	L	FP	Non	Own	Str	V	D-R	D-R	D-R	Ful	D. Ful	U	4	Spi	Cla	B	½	5.82	29.13	G	G*	Ros	102	60	3625
United 30	1495	136	.....	P 30x5	DP30x5	Her OX	4-4x5	25.6	L	PC	Non	Per	Str	V	D-R	Eis	A-L	B-L 31	D. B-L	U	3	Blo	Cla	B	½	6.37	47.0	G*	.....	Ros	114½	.....	6334
United 30C6	1495	136	.....	P 30x5	DP30x5	Con 6R	6-3½x4½	27.3	L	PC	Non	Per	Str	V	A-L	A-L	A-L	B-L 31	D. B-L	U	3	Blo	Col 54000	S	F	5.85	28.1	Shu 310	Ros	115½	75¾	3500
U. S. L	1495	136	.....	P 30x5	DP30x5	Bud HS	6-3½x4½	27.3	L	PC	Non	Own	Str	V	A-L	A-L	A-L	B-L 31	D. B-L	U	3	Blo	Col 54000	S	F	5.85	28.1	Shu 310	Ros	110¾	70¾	3600
U. S. L	2450	148	.....	P 32x6	P 34x7	Bud HS	6-3½x4½	27.3	L	PC	Non	Own	Zen	V	A-L	A-L	A-L	B-L 31	D. B-L	U	3	Blo	Cla I-D	I	D	7.60	36.5	A*	Lav	109	75	4200
U. S. N	1950	144	.....	S 38x6	Bud	4-4½	4-3½x5½	22.5	L	PC	Non	Own	Str	V	A-L	A-L	A-L	B-L 31	D. B-L	U	3	Blo	Cla I-D	I	D	7.60	36.5	A*	Lav	120	72	4070
Valley	1595	132	.....	P 30x5	Her	4-4½	6-3½x4½	25.6	L	FP	Non	Har	Zen	V	D-R	A-L	D-R	B-L 20	D. Ful	U	4	Har	Wia	R	S	Opt.	Opt.	A*	Own 20A	Ros	.....	.....	.....
Victor 35	1895	144	.....	P 30x5	P 32x6	Con 18E	6-3½x4	27.3	L	FP	Non	Lon	Zen	V	D-R	A-L	D-R	B-L 20	D. Ful	U	4	Spi	Tim	S	W	5.1	20.4	G†	Tim	Ros	.....	.....	3650
Wachusett J	.....	148	.....	S 36x6	DP30x5	Con J4	4-3½x5	22.5	L	PC	Non	Gd'O	Zen	V	Bos-A	Bos-A	Bos-A	D-L 35	D. B-L	U	4	Spi	Tim 64600D	W	W	7.20	38.5	*	Tim 15300	Ros	120	84	3300
Wachusett K	.....	154	.....	.....	.....	Con K4	4-4½x5½	27.2	L	FP	Non	Gd'O	Zen	V	Bos-A	Bos-A	Bos-A	B-L 35	D. B-L	U	4	M.M.	Tim 6460	S	W	7.75	41.5	*	Tim 1520	Ros	144	102	4600
*Whippet Six C-101	645	131	.....	P 30x5	P 30x5	Own	6-3½x3½	23.4	L	PC	Non	Fed	Til	V	A-L	A-L	A-L	B-L 35	D. B-L	U	4	Blo	Cla B-364	S	W	6.37	39.27	E*	Own	Ros	86½	51½	2675
*Willys-Knight 16	1595	174	.....	P 30x5	P 32x6	Own	6-2½x4½	20.7	X	PC	Han	Fed	Til	V	A-L	A-L	A-L	Ful KU	D. B-L	U	4	Blo	Eat 1504	S	S	6.6	42.9	H*	Own	Ros	126	73½	3400
*Willys-Knight 16	1545	134	.....	P 30x5	S 38x6	Own	6-2½x4½	20.7	X	PC	Non	Own	Zen	V	A-L	L-N	D-R	Ful KU	D. B-L	U	4	Blo	Eat 1504	S	S	Opt.	Opt.	H*	Own 20A	Ros	96	56½	3300
White 20A	2125	145½°	.....	P 34x5	DP34x5	Own GKA	4-3½x5½	22.5	L	PG	Non	Own	Zen	V	L-N	L-N	D-R	Own 20A	P. Own	A	4	Spi	Own 20A	R	S	9.25	32.1	A*	Own 20A	Own	106½	69¾	4412
White 61	2450	148°	.....	P 30x5	DP30x5	Own 2A	6-3½x4½	29.4	L	FP	Han	Own	Zen	V	D-R	Eis	D-R	Own 5B	P. Own	A	4	Spi	Own 7C	S	W	5.67	23.4	G†	Own 7D	Han	115½	68¾	4612
Witt-Will NN	2850	144	.....	S 36x7	S 36x7	Con S4	4-4½x5½	28.9	L	PC	Non	Own	Zen	O	D-R	Eis	D-R	B-L 35	D. B-L	U	4	Spi	Tim 64600D	W	W	7.25	30.3	A*	Tim 15300	Ros	136¼	79½	4200
Witt-Will C2	.....	144	.....	P 30x5	DP30x5	Con 16C	6-3½x4½	27.3	L	PC	Non	Per	Zen	O	A-L	D-R	D-R	B-L 35	D. B-L	U	4	Spi	Tim 56000	S	F	7.4	46.99	G†	Tim 14703	Ros	136¼	79½	4300
Woods 32	1895	160°	.....	P 30x5	DP30x5	Her WXA2	6-3½x4½	29.4	L	PC	Han	Chi	Zen	O	A-L	A-L	A-L	B-L	D. Lon	U	4	U-M	Tim	S	F	*5.83	29.15	G†	Tim	Ros	.....	.....	4450
World D88	.....	147½	.....	P 30x5	DP30x5	Lyc	8-2⅞x4¼	26.4	L	PC	Han	Mod	Zen	O	A-L	A-L	A-L	Ful	P. Lon	U	4	Blo	Tim	S	F	5.83	37.8	F	Shu	Ros	118	71	4000
1¾ Ton																																	
†Gen. Mot. T30-3001	1530	136°	.....	P 32x6	P 36x8	Buick	6-3½x4½	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	A-L	Mum	D.	U	4	Spi	Eat 1616	S	½	5.63	28.60	G*	Own	Jac	101	58	4032
†Gen. Mot. T30-3002	1505	136°	.....	P 32x6	DP32x6	Buick	6-3½x4½	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	D-R	Mum	D. B-L	U	3	Spi	Eat 1616	S	½	5.63	28.60	G*	Own	Jac	101	58	3957
Sanford AX	.....	150	.....	P 34x7	P 34x7	Con 18E	6-3½x4	27.3	L	PC	Non	Fed	Strom	V	D-R	D-R	D-R	B-L	D. B-L	U	3	Blo	Eat	S	½	6.38	26.4	H	Eat	Ros	107½	66¼	3000
2 Ton																																	
Acme 47	.....	162	.....	P 32x6	DP32x6	Con 16C	6-3½x4½	27.3	L	PC	Non	Per	Str	V	A-L	A-L	A-L	B-L	D. B-L	U	4	Blo	Tim 54000-H	S	F	6.8	32.6	G	Tim 14703H	Ros	132½	82½	4350
*Acorn 40	2500	144	.....	S 36x7	S 36x7	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Str	V	A-L	Bos-R	A-L	Ful	D. Ful	U	3	Spi	Cla B720	S	½	6.16	Opt.	A	Shu 350	Ros	.....	.....	4000
*Acorn 40P	2600	162	.....	S 32x6	DP32x6	Con 16C	6-3½x4½	28.9	L	PC	Non	Chi	Chi	G	D-R	D-R	D-R	Ful GU 14	D. Ful	U	3	Spi	Tim 56001H	S	½	6.16	Opt.	A	Tim 14703H	Ros	144	.....	4600
Am. La France Chief	3650	192	Opt.	S 32x6	DP32x6	Own	6-3½x5	33.7	L	PC	Non	Own	Zen	G	A-L	A-L	A-L	Own	D. B-L	U	4	Spi	Tim 63-700BX	W	F	5.00	24.0	E*	Tim 14703BX	Ros	Opt.	Opt.	6200
Armleder 40	2150	149	187	S 36x8	S 36x8	Her OX	4-4x5	25.6	L	PC	Non	Non	Zen	V	A-L	A-L	A-L	B-L 35	D. B-L	U	4	Spi	Tim	S	W	7.25	38.8	A*	Tim	Ros	121	72¾	4600
Armleder 40-6	2150	154	200	S 36x8	S 36x8	Bud HS	6-3½x4½	27.3	L	PC	Non	Lon	Zen	V	A-L	A-L	A-L	B-L 35	D. B-L	U	4	Spi	Tim	S	W	7.25	38.8	A*	Tim	Ros	121	72¾	4800
*Atterbury 20G6	.....	145	160	P 32x6	P 32x6	Lyc 4SL	6-3½x4½	25.3	L	PC	Non	Fed	Zen	V	D-R	D-R	D-R	B-L 35	P. Lon	U	4	Spi	Tim 54000H	B	R	6.80	34.00	G	Tim 12703H	Gem	120	68	4450
*Autocar SD	3000	150°	192	P 32x6	P 32x6	Own	6-3½x4½	33.7	L	PC	Non	G&O	Zen	V	A-L	L-N	D-R	B-L 35	D. B-L	U†	4	Spi	Own SD	B	R	6.33	33.86	H	Tim 14703	Ros	115¼	63⅝	4850
Brockway EYW	.....	156°	164	P 34x7	P 32x6	Wia 5U	6-3½x5	27.3	H	PC	K.P.	Bus	Zen	G	A-L	L-N	A-L	B-L 35	D. B-L	U	4	Spi	Wia 4610	R	F	6.00	32.1	G*	Col 5503	Ros	117¾	70¾	5090
Brockway S	1545	150°	164	S 34x4†	S 34x3†	Wau V	4-4x5	25.6	L	FC	Wau	Chi	Zen	V	A-L	L-N	A-L†	B-L 35	D. B-L	U	4	Spi	Wia 4610	R	F	6.25	33.4	G†	Tim 14703	Ros	129	76¾	4870
Chicago 20A	1950	135°	195	S 34x7	S 34x7	Wau XK	6-3½x4½	33.7	L	FC	Wau	Chi	Zen	V	A-L	L-N	A-L†	B-L 35	D. B-L	U	4	Spi	Tim 63720H	W	F	6.25	33.4	G†	Tim 14703H	Ros	Opt.	Opt.	5115
Chicago 21A	.....	135°	195	P 32x6	DP32x6	Bud KTU	4-4x5½	25.6	L	FC	Wau	Chi	Zen	V	A-L	Apo	D-R	Spl	D. B-L	U	4	Spi	Tim 64600	W	W	7.75	41.5	A*	Tim 15302	Ros	Opt.	Opt.	4875
Clinton 45	.....	162	Opt.	DS34x4†	DS34x4†	Con S4	4-4½x4½	28.9	L	FP	Non	Per	Zen	V	D-R	Bos-A	D-R	Spl	D. B-L	U	4	Spi	Tim 64600	W	W	7.75	41.40	A*	Tim 1460	Ros	108	78	4660
Clydesdale 9	.....	160°	.....	S 34x4	P 34x7	Con 16C	6-3½x5	28.9	L	PC	Non	Own	Zen	V	A-L	A-L	A-L	Ful GU 12	D. B-L	U	4	Spi	Own	W	W	7.75	41.40	A*	Own	Ros	108	78	6100
Coleman C-25	.....	144	.....	P 34x7	P 34x7	Bud DW6	6-3½x5	27.3	L	PC	Non	R-T	Str	V	A-L	A-L	A-L	Ful	D. B-L	U	4	Spi	Own	W	F	7.25	39.0	A*	Own	Han	144	90	6100
Commeres 40Z	3240	168	.....	P 36x6	DP36x6	Bud DS6	6-3½x5	31.5	L	PC	Non	Own	Zen	V	A-L	A-L	A-L	Ful	D. B-L	U	4	Blo	Tim 63703H	R	F	6.5	34.8	G	Tim 14704H	Ros	144	85	5140
Concord GX-6	.....	163	185	P 32x6	DP32x6	Bud DW6	6-3½x5	33.7	L	FP	Non	Own	Zen	V	A-L	A-L	A-L	B-L 35	D. B-L	U	4	Spi	Wis 4610	R	F	6.8	36.38	A‡	Tim 15300	Ros	Opt.	Opt.	4980
Corbitt 646	.....	150	198	P 32x6	P 34x7	Con 16R	4-4½x5	38.4	H	FP	Non	Per	Zen	V	D-R	A-L	D-R	B-L 35	D. B-L	U	4	Spi	Tim 63703H	S	F	7.33	39.23	G†	Tim 14703H	Ros	144	78	4980
Corbitt 9B6	.....	150	181	P 32x6	DP32x6	Con 16C	6-3½x4½	27.3	L	FP	Non	Per	Zen	V	D-R	A-L	D-R	B-L 35	D. B-L	U	4	Spi	Tim 56001H	S	F	5.83	29.15	G†	Tim 14703H	Ros	Opt.	Opt.	4200
Day-Elder HF	.....	156	186	S 34x4†	S 34x7†	Con 16C	6-3½x4½	27.3	L	FP	Non	Bus	Zen	V	D-R	D-R	D-R	B-L 35	D. B-L	U	4	Spi	Tim 63702H	W	F	7.66	40.78	A	Tim 14703H	Ros	128	74½	4400
Day-Elder HBF	.....	156	196	S 34x4	S 34x7	Con S4	4-4¼x4½	28.9	L	FP	Non	Bus	Zen	V	A-L	A-L	A-L	B-L 35	D. B-L	U	3	Spi	Tim 54000H	B	F	6.83	36.55	A	Tim 14703H	Ros	128	74½	4400
Defiance TT62T	.....	175	220	P 32x6	DP32x6	Her WXB	6-3½x4½	33.7	L	PC	Han	Own	Zen	G	A-L	A-L	A-L	Cov	D. Cov	U	4	Spi	Tim 6460	S	½	5.66	33.1	G†	Cla	Ros	117½	.....	4600
Diamond T302	.....	160	176	P 32x6	P 32x6	Own	6-3½x4½	33.7	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	P. B&B	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	106¾	69¾	3630
Dodge Brothers	1545	150	150	P 32x6	P 34x7	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	106¾	69¾	3930
Dodge Brothers	1620	150	150	P 32x6	DP32x6	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	106¾	69¾	4080
Dodge Brothers	1650	150	150	P 32x6	DP32x6	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	106¾	69¾	4070
Dodge Brothers	1615	165	165	P 32x6	P 34x7	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	132¾	84¾	4220
Dodge Brothers	1690	165	165	P 32x6	DP32x6	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	132¾	84¾	4070
Dodge Brothers	1720	165	165	P 32x6	DP32x6	Own	6-3½x4½	27.3	L	PC	KP	Fed	Zen	V	N-E	N-E	N-E	Own	P. B&B	U-P	4	Spi	Own	S	½	6.38	41.44	G†	Own	Han	132¾	84¾	4220
Douglas	.....	156°	.....	P 32x6	P 34x7	Bud KBU-1	4-4x5¼	25.6	L	PC	Non	Bus	Zen	V	L-N	L-N	L-N	Ful GU14	D. Ful	U	4	Blo	Wis 6617	R	F	6.9	33.12	A*	Shu 510	Ros	144	84	5500
Douglas	.....	168°	.....	P 34x7	P 34x7	Bud DW6	6-3½x5	33.7	L	PC	Non	Bus	Zen	V	L-N	L-N	L-N	Ful GU14	D. Ful	U	4	Blo	Wis 6617	R	F	6.33	30.38	A*	Shu 510	Ros	144	84	5500
Douglas	.....	118	.....	P 32x6	P 34x7	Bud KBU-1	4-4x5¼	25.6	L	PC	Non	Bus	Zen	V	Bos-R	L-N	Non	Ful GU14	D. Ful	U	4	Blo	Wis 6617	R	F	6.33	30.38	A*	Shu 510	Ros	144	84	4500

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Key of abbreviations page 78

Trade Name and Model	General: Chassis Price	Standard Wheelbase (Inches)	Maximum Wheelbase furnished	Tire Size: Front (Inches)	Tire Size: Rear (Inches)	Engine: Make and Model	Engine: Number of Cylinders Bore and Stroke	Engine: N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
2½ Ton																																
Acme 52	....	186	.....	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	PC	Con	Per	Str	V	A-L	A-L	D. B-L	B-L 60	A	4	Blo	Tim 65706DP	W	F	7.75	41.5	B	Tim 15300	Ros	156	96½	7100
Acme 56 Spec	....	177½	.....	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	PC	Con	Per	Str	V	A-L	A-L	D. B-L	B-L 55	A	7	Blo	Tim 65001-D	W	F	7.75	73.6	B	Tim 15300	Ros	154	88	7100
*Acorn 45	2900	156	.....	S 36x4	S 36x8	Con S4	4-4¼x4½	28.9	L	PC	Non	Chi	Str	G	Bos-R	.....	D. Ful	Ful GU14	U	4	Spi	Tim 65600	W	F	Opt	Opt	A	Shu 350	Ros	.....	.....	4800
*Acorn 45P	3600	156	.....	P 34x7	DP34x7	Bud DW6	6-3¾x5	33.7	L	FP	Non	Chi	Str	G	A-L	A-L	D. Ful	Ful GU 14	U	4	Spi	Cla B720	S	½	Opt	Opt	A	Shu 350	Ros	.....	.....	5500
Am. LaFrance Chief	3900	192	.....	P 34x7	DP34x7	Own	6-3¾x5	33.7	L	PC	Bud	G&O	Zen	V	D-R	D-R	P. B&B	Own	A	4	Spi	Tim 63702-BX	W	F	5.00	24.0	E*	Tim14703BX	Ros	Opt	Opt	6400
Armleder 50	....	152°	209	S 36x4‡	S 36x8‡	Bud EBU-I	4-4¼x5½	28.9	L	PC	Han	Lon	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim	W	F	9.25	49.5	A*	Tim	Ros	133	77⅜	5300
Armleder 55	....	152	209	S 36x4‡	S 36x8‡	Con K4	4-4⅛x5¼	27.2	L	FP	Han	Lon	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim	W	F	9.25	49.5	A*	Tim	Ros	133	77⅜	5300
Armleder 50-6	....	158°	215	S 36x4‡	S 36x8‡	Bud BUS	6-4x5½	38.4	L	PC	Mon	Lon	Zen	V	A-L	A-L	D. B-L	B-L	U	4	Spi	Tim	W	F	7.25	38.8	A*	Tim	Ros	133	77⅜	5600
Atterbury 29H6	....	173	199	P 32x6	DP32x6	Con 16R	6-4x4½	38.4	H	PC	Han	You	Zen	V	D-R	A-L	D. B-L	B-L	U	4	Spi	Tim 56000H	B	F	6.16	32.98	G	Tim 14703H	Gem	148½	90½	6550
Biederman	....	160°	200	S 36x5	S 36x10	Con 6B	6-3¾x5	33.7	L	PC	Han	Own	Zen	G	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Tim	W	F	8.5	45.0	A*	Shu	Ros	164	.....	4905
Brockway SY	....	151¾°	178½	P 32x6	P 34x7	Wis Y	6-3⅝x5	27.3	H	PC	K.P.	G&O	Zen	V	L-N	L-N	D. B-L	B-L 35	U	4	Spi	Wis 4610	R	F	6.6	35.3	G*	Col 5503	Ros	129	73	5145
Chicago 25A	....	135	195	S 36x4	S 36x8	Wau V	4-4x5	25.6	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 35	U	4	Spi	Tim 65001H	W	F	7.75	41.5	G†	Tim 14703H	Ros	Opt	Opt	5550
Chicago 26A	....	....	.....	P 34x7	DP34x7	Wau XK	6-3¾x4½	33.7	L	FP	Wau	Chi	Zen	G	Apo	A-L*	D. B-L	B-L 35	U	4	Spi	Tim 65001H	W	F	7.75	41.5	G†	Tim 14703H	Ros	Opt	Opt	5800
Chicago 30B	....	138	222	S 36x5	S 36x10	Wau V	4-4x5	25.6	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 35	U	4	Spi	Tim 65001H	W	F	7.75	41.5	G†	Tim 15733H	Ros	Opt	Opt	6120
Clydesdale 8	....	156°	.....	S 36x4	S 36x8	Con K4	4-4⅛x5¼	27.2	L	FP	Own	Own	Zen	V	Bos-A	Bos A*	D. B-L	B-L 35	A	4	Spi	Tim 6566	R	F	8.5	45.48	A*	Tim 15300	Ros	.....	.....	5300
Coleman C25D	....	120	144	P 38x7	P 38x7	Bud DW6	6-3¾x5	27.3	L	FP	Bud	Per	Zen	V	D-R	D-R	D. Ful	Ful GU14	U	8	Spi	Wis	R	F	8.33	159.0	E	Wis	Ros	108	78	6400
Commerce 50Z	4415	175	.....	S 36x5	S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Tim 58000H	B	F	8.5	62.0	A‡	Tim 15733H	Ros	156	97½	7000
*Corbitt 15B6	....	152	220	P 34x7	DP34x7	Con 16R	6-4x4½	38.2	H	FP	Non	Per	Zen	V	Eis	D-R‡	D. B-L	B-L 51	U	4	Spi	Tim 58000H	B	F	Opt	Opt	G†	Tim 15733H	Ros	134	80	5860
*Corbitt 15W6	....	152	220	P 34x7	DP34x7	Con 16R	6-4x4½	38.4	H	FP	Non	Per	Zen	V	Eis	D-R‡	D. B-L	B-L 51	U	4	Spi	Tim 66001-H	W	F	Opt	Opt	G†	Tim 15733H	Ros	134	80	6160
Defiance OX	....	175	240	P 32x6	DP32x6	Con 6B	6-3¾x5	33.7	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	Spi	Wis	R	F	7.25	Opt	A	Shu	Ros	160	110	6200
Defiance OXH	....	175	240	P 32x6	DP32x6	Her WXC	6-4x4½	38.4	L	FR	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	Spi	Wis	R	F	7.25	Opt	A	Shu	Ros	160	110	6400
Denby 43	....	155	.....	S 36x4	S 36x8	Her O	4-4x5	25.6	L	PC	.....	Lon	Zen	G	Eis	.....	D. Ful	Ful	U	4	U-P	Cla	I	D	9.00	39.12	...	Con	Ros	.....	.....	4925
Diamond T550	2195	165°	183¼	P 32x6	DP32x6	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov	Cov	U	4	Spi	Cla	S	½	7.12	36.9	G‡‡	Cla	Ros	138	.....	5400
*Diamond T502	2675	173°	199	P 34x7	DP34x7	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov	Cov	U	4	Spi	Tim 65000H	W	F	9.33	48.5	G‡‡	Shu	Ros	146½	.....	5900
Diamond T505	2875	171½	196½	P 34x7	DP34x7	Her WXC	6-4x4½	38.4	L	PC	Han	G&O	Zen	V	A-L	A-L	D. Cov.	Cov	U	4	Spi	Wis	R	F	.....	.....	G‡‡	Shu	Ros	.....	.....	5850
Eagle 6-25	....	153	.....	P 30x5	P 30x5	Con 18E	6-3⅜x4	27.0	L	PC	Opt	Per	Zen	V	A-L	A-L	D. Cov	Cov W4C	U	4	Pet	Tim 54000H	B	F	.....	.....	G	Tim 14703H	Ros	.....	.....	5000
Fageol 250	3100	178°	196	P 32x6	DP32x6	Wau XK	6-3¾x4½	33.7	L	PC	Non	Own	Zen	V	D--R	D--R	D. B-L	B-L 35	U	4	Spi	Tim 56000H	W	F	4.88	20.56	G†	Tim 14700H	Ros	167⅛	99⅛	5250
Federal T3W	....	148	185	P 32x6	DP32x6	Wau V	4-4x5	25.6	L	PC	Wau	Lon	Zen	V	D-R	D-R	P. B&B	Own	A	4	Pet	Tim 64600HP	W	½	7.25	36.2	G†	Own	Ros	119	71	5050
Federal T22	....	115	115	P 32x6	DP32x6	Wau V	4-4x5	25.6	L	PC	Wau	Lon	Zen	V	D-R	D-R	P B&B	Own	A	4	Pet	Tim 64600D	W	½	7.25	36.2	A*	Own	Ros	52	.....	4750
Federal T8	....	148	185	P 32x6	DP32x6	Con 16C	6-3⅝x4⅝	27.3	L	PC	K.P.	Lon	Zen	V	D-R	D-R	P. B&B	Own	A	4	Pet	Tim 64600H	W	½	7.25	36.2	G†	Own	Ros	119	71	5050
*Fisher Heavy Duty	....	155	190	P 32x6	DP32x6	Con 16-R	6-4x4⅛	38.4	H	FP	.....	Lon	Str	V	A-L	A-L	D. B-L	B-L 35A	A	4	Blo	Tim 58000H	B	F	6.83	42.3	E	Tim 15733H	Ros	120	80	4800
*Fisher Heavy Duty	....	155	190	S 36x5	S 36x8	Con 16-R	6-4x4⅛	38.4	H	FP	.....	Lon	Str	V	A-L	A-L	D. B-L	B-L 35A	A	4	Blo	Tim 65000H	W	F	6.83	42.3	E	Tim 15733H	Ros	120	80	5150
†F. W. D.-HH6	....	133	160	P 36x8	P 36x8	Wau XL	6-3½x4½	29.4	L	PC	Wau	Per	Zen	Y	N-E	N-E	D. B-L	B-L	A	7	Blo	Own	B	F	6.95	84.7	B	Own	Ros	115	80	6000
Garford 50Z	4415	175	.....	S 36x5	S 36x10	Bud BUS	6-4x5½	38.4	L	PC	Non	Own	Zen	V	A-L	A-L	D. B-L	B-L 51	U	5	Blo	Tim 65706DH	W	F	8.5	63.0	G	Tim 15733H	Ros	156	97½	7000
†Gen. Mot. T42-400	1885	136°	175	P 32x6	P 38x9	Buick	6-3⅛x4⅝	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	U	4	Spi	Own	S	½	6.57	33.38	G*	Own	Jac	101	58	4485
†Gen. Mot. T42-4002	1790	136°	175	P 32x6	DP32x6	Buick	6-3⅛x4⅝	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	U	4	Spi	Own	S	½	6.57	33.38	G*	Own	Jac	101	58	4435
Gotfredson W44	....	165	196	P 34x7	P 34x7	Bud KBU-I	4-4x5¼	25.6	L	PC	Non	McC	Zen	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Tim 63721H	W	F	7.66	40.98	G	Tim 14703H	Ros	.....	.....	5050
Gotfredson RW-46	....	Opt.	.....	P 32x6	DP32x6	Own	6-3¾x4½	33.7	L	FP	Non	Lon	Joh	V	D-R	D-R	D. B-L	B-L 35-4	U	4	Spi	Tim 63702H	W	F	Opt	Opt	I	Tim 12703	Ros	.....	.....	.....
G-P 57-4	....	154	175	P 36x6	P 40x8	Wau CR	4-4⅝x5¾	30.6	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 51	U	5	M.M.	Tim 65706	W	F	7.80	.....	F*	Tim 15733	Ros	.....	.....	6800
G-P 57-6	....	154	175	P 36x6	P 40x8	Wau 6-KS	6-4x4¾	38.4	L	PC	Wau	Chi	Str	V	Bos-R	A-L	D. B-L	B-L 51	U	5	M.M.	Tim 65706	W	F	7.80	.....	F*	Tim 15733	Ros	.....	.....	6800
*Gramm D-160	1995	160°	196	P 32x6	DP32x6	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Per	Zen	O	A-L	A-L	D. Jon	Cov W4C	U	4	Blo	Wis 4626-L	R	F	4.6	29.44	I†	Col 5500	Ros	120	77¼	5100
Gramm-Bernstein 125	....	144°	160	S 36x4‡	DS36x4	Con S4	4-4¼x4½	28.9	L	FP	Non	Own	Str	G	Eis	A-L	D. Ful	Ful GU	U	4	Own	Wis	W	F	8.66	41.57	*	Shu 5410	Ros	125	76¼	5440
Gramm Bernstein B6	....	144	.....	P 32x6	DP32x6	Con 16C	6-3⅝x4⅝	27.3	L	PC	Non	You	Zen	V	A-L	A-L	D. Ful	Ful KU10	U	4	Blo	Tim	B	F	5.83	37.89	G†	Tim	Ros	120½	73¾	4590
Gramm-Bernstein C	....	144°	166	S 36x4‡	DS36x4‡	Con K4	4-4⅛x5¼	27.2	L	FP	Pie	Own	Str	V	Eis	A-L	D. Ful	Ful GOG	A	8	Blo	Wis 9890T	W	F	8.66	76.6	B*	Shu 5550	Ros	128½	76⅛	5865
Gramm-Bernstein C6	....	150°	201	S 36x4‡	DS36x4‡	Con 6B	6-3¾x5	33.7	L	FP	Pie	Own	Str	V	Eis	A-L	D. Ful	Ful GOG	A	8	Blo	Wis 9890T	W	F	7.25	68.6	B*	Shu 5550	Ros	128½	77⅛	5920
Guilder E6	3250	172	184	P 32x6	DP32x6	Her WXB	6-3¾x4½	33.7	L	PC	Mon	G&O	Zen	V	D-R	D-R	D B-L	B-L 35	U	4	Spi	Tim 5600°	S	F	Opt	Opt	...	Tim 14703	Ros	.....	.....	5600
Harvey WG6	3500	185	185	S 36x5‡	S 36x10‡	Bud DW6	6-3¾x5	33.7	L	PC	McC	Own	Str	G	A-L	A-L	D. B-L	B-L 55	A	7	Spi	Tim 65700D	W	F	9.33	88.6	A*	Tim 15300	Ros	.....	.....	6900
Harvey WG	3500	150°	185	S 36x5‡	S 36x10‡	Bud EBUI	4-4¼x5½	28.9	L	PC	McC	Own	Str	G	Bos-R	Non	D. B-L	B-L 55	A	7	Spi	Tim 65700	W	F	9.33	88.6	A*	Tim 15300	Ros	.....	.....	6950
Hawkeye 50-75	....	210°	225	S 36x5‡	S 36x8‡	Bud BA6	6-4⅛x5⅛	40.8	L	PC	Non	Per	Zen	G	Bos-R	N-E	D. Ful	Ful HU	U	4	Pic	Wis 1418	R	F	6.86	37.4	A‡	Shu 5550	Ros	205	131	5900
Hawkeye 50-48	....	Opt	185	S 36x5‡	S 36x8	Bud EBUI	4-4¼x5½	28.9	L	PC	Sim	Per	Zen	G	Bos-R	N-E	D. Ful	Ful HU	U	4	Pic	Wis 8800A	R	F	8.6	54.2	A*	Shu 5550	Ros	179	106	5400
Hawkeye 50-60	....	197	197	S 36x6	DS38x7	Bud DW6	6-3¾x5	33.7	L	PC	.....	Per	Zen	G	N-E	N-E	D. Ful	Ful HU	U	4	Pic	Wis 1418	R	F	8.00	50.2	A‡	Shu 5550	Ros	179	118	5800
Hendrickson ST	3400	.....	.....	S 36x5	S 36x8	Bud ETU	4-4¼x5½	28.9	L	FP	McC	Chi	Zen	G	Spl	.....	D. Ful	Ful G7	A	4	Pic	Tim 65600D	W	F	Opt	Opt	A*	Tim 15300B	Ros	Opt	Opt	5750
Hug 26	....	150	195	P 32x6	DP32x6	Bud DW6	6-3¾x5	33.7	L	PC	Bud	You	Zen	V	A-L	D-R	D. B-L	B-L 35	U	4	Blo	Wis 4610	R	F	5.98	19.67	A	Shu 550	Ros	130	75	5645
Hug 81	....	127	127	P 36x6	DP36x6	Bud KBU-I	4-4x5¼	25.6	L	PC	Bud	You	Zen	V	Eis	D-R	D. B-L	B-L 51	U	4	Blo	Wis 8800B	R	F	7.85	42.05	A	Shu 550	Ros	78	57⅛	5890
Hug 84	....	127	127	P 36x6	DP36x6	Bud KBU-I	4-4x5¼	25.6	L	PC	Bud	You	Zen	V	Eis	D-R	D. B-L	B-L 51	U	5	Blo	Wis 8800B	R	F	7.85	46.85	A	Shu 5550	Ros	78	57⅛	6088
Indiana 115A	....	132	132	P 32x6	DP34x7	Her OX	4-4x5	25.6	L	PC	Non	Lon	Str	G	Eis	A-L	P. B&B	B-L 35	U	4	Spi	Cla 720	S	½	7.85	42.99	B*	Shu 5410	Ros	87½	56¾	4970
Indiana 127S	....	162½	.....	S 36x5	S 36x10	Her L	4-4½x5¾	32.4	L	PC	Pie	Lon	Str	V	Eis	A-L	P. B&B	B-L 55	U	4	Spi	Cla 720	S	½	8.00	42.8	A°	Shu 5550	Ros	138	83	6300
Indiana 127W	....	162½	.....	S 36x5	S 36x10	Her L	4-4½x5¾	32.4	L	PC	Pie	Lon	Str	V	Eis	A-L	P. B&B	B-L 55	U	4	Spi	Tim 65700	W	F	8.00	42.8	A°	Shu 5550	Ros	138	83	6300
Indiana 615A	....	136	135½	P 32x6	DP34x7	Wis Y	6-3⅜x5	27.3	H	PC	K.P.	Lon	Str	G	Eis	A-L	P. B&B	B-L 35	U	4	Spi	Cla 720	S	½	7.85	46.79	B*	Shu 5410	Ros	87½	57⅞	5160
Int. Harvester HS54	....	148°	200	S 36x5‡	S 36x8‡	Ha S 151	4-4¼x5½	28.9	H	PC	Ha S	Own	Zen	G	Bos-R	D-R*	P. Own	Own	U	5	Own	Eat 54	R	F	6.85	60.49	E*	Eat 54F	Own	106½	73¼	7500
Int. Harvester HS54C	....	148°	200	S 36x5‡	S 36x10‡	Ha S 151	4-4¼x5½	28.9	H	PC	Ha S	Own	Zen	G	Bos-R	D-R*	P. Own	Own	U	5	Own	Own	C	D	7.22	63.75	E*	Eat 54F	Own	106½	73¼	8165
Kenworth DH	3130	166	180	P 32x6	DP32x6	Her WXC	6-4x4½	38.4	L	PC	Pie	Per	Zen	V	D-R	D-R	D. B-L	B-L 35	U	4	Spi	Cla B721	B	½	7.00	42.8	A	Cle F304	Ros	130	84	.....
King Zeitler 45	....	156°	.....	S 36x5‡	S 36x8‡	Con 16C	4-4¼x4½	28.9	L	FP	Han	Chi	Str	G	Bos-R	A-L‡	D. B-L	B-L 35	U	4	Blo	Tim 65000D	W	F	9.25	49.5	A*	Tim 15302	Ros	.....	.....	5400
Kissel	....	168	.....	S 36x4	S 36x8‡	Own 50000	4-4¼x5½	28.9	L	SP	Pie	McC	Str	V	Eis	D-R‡	D. W-G	Ful G7	A	4	Spi	Tim 6566	W	F	8.50	40.8	A*	Tim 1544B	Ros	.....	.....	5100
Kleiber Speed	2950	180	180	P 32x6	DP32x6	Bud	6-3¾x5	33.7	L	PC	Non	Own	Str	V	D-R	D-R	D. B-L	B-I. 55	U	4	Spi	Tim 63720H	W	F	6.25	33.4	A†	Tim 14703H	Ros	144	97	5100
Kleiber Black Panther	3500	190	190	P 34x7	DP34x7	Cont	6-4x4½	38.4	H	FP	Non	Own	Str	V	D-R	D-R	D. B-L	B-L 51	U	5	Spi	Tim 58000H	B	F	6.83	.....	G	Tim 14703H	Ros	164	104	6050

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Key of abbreviations page 78

Trade Name and Model	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	General: Tire Size: Front (inches)	General: Tire Size: Rear (inches)	General: #	Make and Model	Number of Cylinders: Bore and Stroke	N.A.C.C. Rated H.P.	Engine: Valve Arrangement	Engine: Oiling System	Engine: Governor (Make)	Engine: Radiator (Make)	Engine: Fuel System: Carburetor (Make)	Engine: Fuel System: Fuel Feed	Electrical System: Ignition System (Make)	Electrical System: Generator and Starter (Make)	Clutch: Type and Make	Gearset: Make and Model	Gearset: Location	Gearset: No. of Forward Speeds	Universals (Make)	Rear Axle: Make and Model	Rear Axle: Final Drive	Rear Axle: Type	Gear Ratios: Total Reduction in High	Gear Ratios: Total Reduction in Low	Brakes, Location	Front Axle: Make and Model	Steering Gear (Make)	Standard Wheelbase: Cab to rear of frame	Standard Wheelbase: Cab to rear axle	Chassis Weight (lbs.) (stripped)
3 Ton—Cont'd																																	
Douglas	.....	156"	.....	S 36x10‡	S 36x10‡	.....	Bud YBU-I	4-4½x6	32.4	L	PC	Buda	Own	Zen	V	L-N	Opt	Ful RU-16	D. Ful	U	4	Blo	Wis 891A	R	F	7.25	34.8	A‡	Shu 5550	Ros	168	98	6500
Douglas	.....	186"	.....	36x6‡	DF38x7	.....	Bud BUS	6-4x5½	38.4	L	PC	Fuda	Own	Zen	V	L-N	L-N	Ful RU-16	D. Ful	U	4	Blo	Wis 891A	R	F	7.25	59.6	A‡	Shu 5550	Ros	168	98	6800
Douglas	.....	216"	.....	P 38x7	DP40x8	.....	Bud BA6	6-4½x5½	40.8	L	PC	Fuda	Own	Zen	V	L-N	L-N	Ful H-OG	D. Ful	A	8	Blo	Wis 1418	R	F	7.85	84.0	A‡	Shu 5550	Ros	204	120	7560
Douglas Spl.	.....	216"	.....	P 38x7	DP40x8	.....	Bud BA6	6-4½x5½	40.8	L	PC	Fuda	Own	Zen	V	L-N	L-N	B-L 51	D. B-L	U	4	Pet	Tim 65706	W	F	8.5	45.5	A*	Shu 5550	Ros	.....	.....	7200
Duplex FAC	.....	166"	.....	S 34x5	S 36x8	.....	Bud EBU-I	4-4½x5½	28.9	L	FP	Non	Mod	Zen	V	A-L	A-L	B-L 55	D. B-L	A	7	Pet	Tim 65706	W	F	8.5	81.0	A*	Shu 5550	Ros	.....	.....	7400
Duplex SAC	.....	166"	.....	S 34x5	S 36x8	.....	Her WXB	6-3½x4½	33.7	L	PS	Opt	Per	Zen	V	A-L	A-L	Cov W4C	D. B-L	U	4	Pet	Tim 65720H	W	F	5.19	93.31	B‡	Tim 14703H	Ros	172-A	101½	5500
Eagle 6-20	.....	158"	.....	P 32x6	DF36x6	.....	Wau CU	6-4½x5½	30.6	L	PC	Wau	Own	Zen	V	D-R	D-R	B-L 55 & 60	D. B-L	U&A	7	Spi	Tim 65700	W	F	5.19	41.46	B‡	Tim 15700H	Ros	172-A	101½	7820
Fageol 340	4750	182"	200	P 36x6	DF36x6	.....	Wau KS	6-4½x5½	38.4	L	PC	Wau	Own	Zen	V	D-R	D-R	B-L 55 & 60	D. B-L	U&A	7	Spi	Tim 65700	W	F	5.19	93.31	B‡	Tim 15300	Ros	172-A	101½	7250
Fageol 365	4200	182"	200	P 36x6	DF36x6	.....	Wau SRL	6-4½x5½	43.3	L	PC	Wau	Own	Zen	V	D-R	D-R	B-L 55 & 60	D. B-L	U&A	7	Spi	Tim 65700	W	F	5.19	64.60	G†	Own B	Ros	119	81	8080
Fageol 370	5200	182"	200	P 34x7	DF38x7	.....	Con 18R	6-4½x5½	38.4	H	PC	K.P.	Per	Lon	G	Eis	Bos-R	Cot DAF	D. B&B	A	3	Own	Own B	W	F	6.8	64.60	G†	Pet	Ros	130	93	6900
*Federal U6	.....	165	201	P 34x7	DF38x7	.....	Con 18R	6-4½x5½	38.1	T	PC	Pie	Bud	McC	V	D-R	N-E	Cot DAF	O-H-S	A	3	Own	Own B	B	F	8.9	35.6	B	Own	Wob	.....	.....	6460
F.W.D.B	4200	124"	156	P 36x7	S 36x6	.....	Bud DW6	4-4½x5½	33.7	L	FP	Buda	Own	Zen	V	Bos-R	Bos-R	Ful HU16	D. Ful	U	8†‡	Cle	155 4	E	F	8.53	155.4	E	Tim 16733H	Ros	156	97½	7100
Freeman DW	.....	144"	.....	P 36x7	DF36x7	.....	Bud BUS	6-4x5	38.4	L	PC	Non	Lon	Zen	V	A-L	A-L	B-L 51	D. B-L	U	4	Blo	Own	W	F	8.5	63.0	G	Tim 16733H	Jac	101	58	4485
Garford 60Z	4480	175	.....	S 36x12	P 38x9	.....	Buick	6-3½x4½	38.4	I	PC	Nou	Lon	Mar	O	D-R	D-R	Mun	D.	U	4	Spi	Own	S	½	6.57	33.38	G*	Own	Jac	101	58	4435
†Gen. Mot. T42-4001	1885	136"	175	P 32x6	DF32x6	.....	Buick	6-3½x4½	26.3	I	PC	Han	Lou	Mar	O	D-R	D-R	Mun	D.	U	4	Spi	Own	S	½	6.57	33.38	G*	Own	Jac	100	59	5873
†Gen. Mot. T42-4002	1790	136"	175	P 32x6	DF32x6	.....	Buick	6-3½x4½	26.3	I	PC	Han	Lon	Mar	O	D-R	D-R	Mun	D.	U	4	Spi	Tim 65706N	W	F	7.25	44.81	G*	Eat 526F	Jac	100	59	5873
†Gen. Mot. T60-5001	3215	140"	200	P 38x7	P44x10	.....	Buick	6-3½x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	Mun	D.	U	4	Spi	Tim 65706N	W	F	7.25	44.81	G*	Eat 526F	Jac	100	59	6208
†Gen. Mot. T60-5002	3160	140"	200	P 36x8	DP36x8	.....	Buick	6-3½x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	Mun	D.	U	4	Spi	Tim 65000HP	W	F	7.25	44.81	G*	Eat 526F	Jac	100	59	5873
†Gen. Mot. T60-5003	2800	140"	200	P 36x6	DP36x6	.....	Buick	6-3½x5	31.5	I	PC	Pie	Bud	McC	V	D-R	Bos-R	Mun	D.	U	4	Spi	Tim 65000HP	W	F	7.75	46.19	G	Tim 15730H	Ros	.....	.....	5700
Gobiredson W54	.....	163	194‡	P 34x7	S 36x8	.....	Bud EBUI	4-4½x5½	28.9	L	FP	Pie	Bud	McC	V	D-R	D-R	B-L 51	D. B-L	U	4	Spi	Tim 56000	W	F	Opt	Opt	I	Tim 14703	Ros	.....	.....	.....
Gobiredson RB-56	.....	Opt.	.....	P 34x7	DP 34x7	.....	Own	6-4½x5	38.4	L	FP	Pie	Lon	Joh	V	A-L	A-L	B-L 51-5	D. B-L	U	5	Spi	Tim 65001	S	F	Opt	41.2	G†	Tim 14703	Ros	.....	.....	5200
Gobiredson RW-56	.....	Opt.	.....	P 34x7	P 36x8	.....	Lyc TS	6-3¾x5	36.2	L	FP	Non	Chi	Str	V	A-L	A-L	B-L 51	D. B-L	U	5	M.M.	Tim 58000	S	F	7.8	41.2	G†	Tim 15733H	Fos	.....	.....	5200
G-P 52-6	.....	167	208	P 34x7	P 36x8	.....	Lyc C4	6-4x5	25.6	L	FP	Non	Chi	Str	V	A-L	A-L	B-L 51	D. B-L	U	5	M.M.	Tim 58000	S	F	7.8	41.2	G†	Tim 15733H	Ros	.....	.....	5200
G-P 52-4	.....	167	208	P 34x7	P 36x8	.....	Lyc TS	6-3¾x5	36.2	L	FP	Non	Chi	Str	V	A-L	A-L	Cov W4C	D. Jon	U	4	Blo	Wis 6617	R	F	5.33	34.0	H*	Col 5500	Ros	127	74¼	6750
*Gramm E-150	2795	150"	196	P 34x7	DP32x6	.....	Con 20-R	6-4½x5¼	40.8	I	PC	Non	Per	Zen	O	A-L	A-L	Ful MGU-14	D. Ful	U	4	Blo	Wis 4657	R	F	4.00	26.0	H‡	Eat 423	Ros	156	90	6750
Gramm EY-190	3535	190	200	P 32x6	DP32x6	.....	Con 20-R	6-4½x5¼	40.8	I	PC	Non	Per	Zen	V	A-L	A-L	Ful H	D. Ful	A	8	Blo	Wis 8900	R	F	6.33	70.0	B*	Wis 30	Ros	138	83¾	7100
Gramm 35	3595	153"	200	S 36x5‡	S 36x10‡	.....	Lyc TS	6-3½x5	36.2	L	FP	Han	Own	Zen	V	A-L	A-L	Ful MGU	D. Ful	U	4	Blo	Wis 67317	R	F	6.9	33.1	B*	Shu 5550B	Ros	138	83¾	7100
*Gramm 38 low bed	3595	153"	200	S 36x5‡	S 36x10‡	.....	Lyc TS	6-3½x5	36.2	L	FP	Pie	Own	Str	V	Eis	A-L	Ful G7	D. Ful	A	8	Own	Wis	W	F	7.75	63.7	B*	Shu	Ros	130	73¾	6660
Gramm-Bernstein 30	.....	150	168	S 36x5‡	DS36x5	.....	Con L4	6-3½x5½	36.2	L	PC	Non	You	Zen	V	A-L	A-L	Ful	D. Ful	U	4	Blo	Tim	W	F	6.16	40.04	G	Tim	Ros	130	73¾	4700
Gramm-Bernstein B6X	.....	144"	.....	P 32x6	DF32x6	.....	Con 10C	6-3¾x4½	32.4	L	PC	Non	You	Zen	V	A-L	A-L	Ful	D. Ful	U	4	Blo	Tim	W	F	6.5	42.25	G	Tim	Ros	120	73¾	4750
Gramm-Bernstein B6X	.....	144"	.....	S 36x4‡	DS36x4‡	.....	Con 10C	6-3¾x4½	27.3	L	PC	Non	You	Str	V	A-L	A-L	Ful GOG	D. Ful	A	8	Blo	Tim 9890T	W	F	8.66	76.6	B	Shu 5550	Ros	120½	71¼	5865
Gramm-Bernstein C	.....	144"	166	S 36x4‡	DS36x4‡	.....	Con K4	6-4½x5¼	27.2	L	FP	Pie	Own	Str	V	Eis	A-L	Ful GOG	D. Ful	A	8	Blo	Wis 9890T	W	F	7.75	68.6	B*	Shu 5550	Ros	128½	77½	5920
Gramm-Bernstein C6	.....	144"	201	S 36x4‡	DS36x4‡	.....	Con 6B	6-3¾x5	33.7	L	PC	Pie	Own	Zen	V	Eis	A-L	Ful GOG	D. Ful	A	8	Spi	Tim 65000	W	F	7.75	42.0	.....	Shu 5550	Ros	128½	.....	6150
Guilder H	3750	Opt.	184	P 34x7	DP34x7	.....	Bud EBU-I	4-4½x5½	38.4	H	PC	Mon	G&O	Zen	V	D-R	D-R	B-L 61	D. B-L	U	4	Spi	Tim 65000	W	F	Opt	Opt	B	Shu 5550	Ros	.....	.....	5800
Guilder H6	3850	172	.....	P 34x7	DP34x7	.....	Her W-X-C	6-4½x5	38.4	H	PC	Non	Chi	Zen	V	A-L	A-L	B-L 35	D. B-L	U	4	Blo	Tim 56000H	B	F	.....	.....	I	Tim 14703 H	Ros	120	.....	6700
Hahn 39H	.....	164	.....	P 32x6	DP32x6	.....	Con 18R	6-4½x5½	38.4	H	FP	Non	Chi	Zen	V	A-L	A-L	B-L 35	D. B-L	U	4	Blo	Tim 56000H	B	F	.....	.....	I	Tim 14703H	Ros	168	Opt.	6350
Hahn 39HL	174	190	.....	P 32x6	DP32x6	.....	Con 18R	6-4½x5½	38.4	H	FP	Non	Chi	Zen	V	Spi	A-L	Ful G7	D. Ful	A	8	Blo	Tim 65700D	S	F	Opt	61.95	A*	Tim 15300B	Ros	130	71	6100
Headrickson T	3600	Opt	.....	S 36x10	S 36x10	.....	Bud EBU-I	4-4½x5½	38.4	H	PC	Non	You	Zen	V	A-L	A-L	Ful GOG	D. Ful	A	8	Blo	Cla B720	R	F	7.00	61.95	A	Shu 5572	Ros	130	71	6600
Hug 40	150"	150"	195	P 34x7	DP34x7	.....	Bud DW6	6-3¾x5	33.7	L	PC	Pie	Bud	You	V	A-L	A-L	B-L 51	D. B-L	U	5	Blo	Wis 6617	R	F	6.35	37.84	G	Shu 5550	Ros	130	71	6410
Hug 41	.....	150"	195	P 34x7	DP34x7	.....	Bud DW6	6-3¾x5	33.7	L	PC	Pie	Bud	You	V	Eis	A-L	B-L 51	D. B-L	U	5	Blo	Wis 8800B	R	F	7.85	46.85	A	Shu 5550	Ros	78	.....	6430
Hug 86	.....	127	127	P 36x6	DP34x7	.....	Bud DW6	6-3¾x5	33.7	L	PC	Pie	Bud	You	V	A-L	A-L	B-L 51	D. B-L	U	5	Blo	Wis 8800B	R	F	7.85	46.85	A	Shu 5550	Ros	81	61	6430
Hug 486	.....	140"	.....	P 34x7	DP34x7	.....	Bud DW6	6-3¾x5	33.7	L	PC	Pie	Bud	McC	V	Eis	A-L	B-L 55 Max	P. B&B	A	7	Spi	Tim 65700D	W	F	8.5	80.7	B*	Shu 5550	Ros	138	83	7400
Indiana 126	.....	162"	198½	S 36x5	S 36x10	.....	Her L	4-4½x5¾	32.4	L	FP	K.P.	Lon	Str	V	A-L†	A-L†	B-L 55 Max	P. B&B	A	7	Spi	Wis 1228	R	F	7.9	42.3	B‡	Shu 5550	Ros	132	83	7625
Indiana 628	.....	168"	204½	S 36x5	S 36x10	.....	Wis H	6-4½	38.5	H	FP	Han	Lon	Str	V	A-L	A-L	B-L 55	P. B&B	A	7	Spi	Cla 720	S	F	6.28	42.8	A*	Shu 5550	Ros	162	107	7000
Indiana 627W	.....	180¾	216½	P 32x6	P 38x9	.....	Her WXC	6-4½	38.4	L	FP	K.P.	Lon	Str	V	A-L	A-L	B-L 55	P. B&B	A	7	Spi	Cla 720	S	F	6.28	42.8	A*	Shu 5550	Ros	162	107	7000
Indiana 628	.....	216"	198½	P 34x7	P 36x10	.....	Wis H	6-4½	38.4	H	FP	Pie	Lon	Str	V	A-L	A-L	B-L 55	P. B&B	A	7	Spi	Cla 720	S	F	8.00	42.8	A*	Shu 5550	Ros	138	83	6350
Indiana 127	.....	162"	198½	P 36x6	P 36x10	.....	Her L	4-4½x5¾	32.4	L	FP	Pie	Lon	Str	V	Eis	A-L*	B-L 51	P. B&B	A	5	Spi	Wis 9911	R	F	7.00	41.72	B*	Shu 5550	Ros	100	66	7000
Indiana 127AW	.....	150	156	P 34x7	DP34x7	.....	Her K	4-4½x5¾	28.9	L	FP	K.P.	Lon	Str	V	Eis	A-L*	B-L 51	P. B&B	A	5	Spi	Wis 9911	R	F	7.00	41.72	B*	Shu 5550	Ros	100	66	7205
Indiana 627AW	.....	156	156	P 34x7	DP34x7	.....	Wis H	6-4½	38.4	L	FP	Pie	Lon	Str	V	Eis	A-L*	B-L 51	P. B&B	A	5	Spi	Wis 9911	R	F	7.00	41.72	B*	Shu 5550	Ros	100	66	6300
Kenworth J	3750	172	212	S 36x5	S 36x10	.....	Bud EBU	6-4½x5½	38.4	L	PC	Bud	Bud	Zen	V	D-R	D-R	B-L 51	D. B-L	U	4	Spi	Tim 65706D	W	F	7.75	46.8	A*	Tim 15733	Ros	132	89	5200
Kenworth G	3450	172	212	S 36x5	S 36x10	.....	Bud DW6	6-3¾x5	33.7	L	PC	Pha	Bud	Zen	V	D-R	D-R	B-L 51	D. B-L	U	4	Spi	Tim 58000	B	F	6.25	33.4	A*	Tim 15733	Ros	132	87	6200
King Zeitler 60	.....	156"	.....	S 36x5‡	S 36x10	.....	Con 18R	6-4½x5¼	38.4	H	PC	Han	Chi	Str	V	Bos-R	Bos-R	B-L 51	D. B-L	A	7	Blo	Tim 65700D	W	F	9.25	49.5	B*	Tim 15302	Ros	.....	.....	6200
King Zeitler 62A	.....	.....	.....	S 36x5‡	DP34x7	.....	Con 18R	6-4½x5¼	38.4	H	PC	Non	Chi	Zen	V	Bos-R	Bos-R	B-L 55 Max	D. B-L	A	7	Blo	Tim 65700SP	W	F	7.75	73.6	B*	Tim 15302	Ros	170	106	6200
Kleiber Speed	4000	190	192½	P 34x7	DP34x7	.....	Con 18R	6-4½x5¼	38.4	L	FP	Non	Own	Str	V	Bos-R	Bos-A	B-L 60	D. B-L	U	4	Spi	Tim 65700D	W	F	7.75	41.5	A	Tim 15302	Ros	.....	.....	.....
Kleiber	4100	163	.....	S 36x5	DS36x5‡	.....	Con L4	4-4½x5¼	32.4	L	PC	Non	R-T	Str	V	Bos-R	Bos-A	B-L 60	D. B-L	U	4	Spi	Tim 65700SP	W	F	.....	.....	.....	Tim 1544B	Ros	.....	.....	.....
Kleiber Spec	4350	163	.....	S 36x5	S 36x12	.....	Bud BUS	6-4½x5¼	38.4	L	PC	Non	R-T	Str	V	Bos-R	Bos-A	B-L 60 Max	D. B-L	U	4	Cle	Wis 1402	R	F	10.08	95.7	B*	Tim 15300	Ros	102	69½	7450
Lange M	5100	140"	222	P 38x7	P 38x7	.....	Her YXC	6-4½x4¾	45.9	L	PC	Non	Own	Str	V	D-R	Non	B-L 55	D. B-L	U	4	Cle	Wis 1402	R	F	9.12	48.7	A*	Tim 15300	Ros	139½	85½	6650
Lange H-1	4250	150"	183	S 36x5	S 36x10	.....	Her YXB	6-4¼	38.4	H	PC	Non	Own	Zen	V	D-R	A-L	B-L 55	D. B-L	U	4	Spi	Tim 65706D	W	F	Opt.	Opt.	E†‡	Tim	Ros	156	92½	6650
Larrabee Deyo 60	3950	184	220	P 38x7	DP38x7	.....	Con 18R	6-4½x5¼	38.4	H	PC	Non	Per	Zen	V	D-R	A-L	B-L 51	D. B-L	U	4	Spi	Tim 65706D H	W	F	6 00	3 10	G	Tim 15733H	Ros	162	105	6000
Le Moon HB30	3750	182	182	P 36x8	DP36x8	.....	Wau 6KU	6-4½x4¾	43.3	.....	FP	Wau	Chi	Zen	G	A-L	A-L	B-L 51	D. B-L	U	4	Spi	Tim 65706D H	W	F	7.25	8.78	G	Tim 15733H	Ros	162	105	6000
Le Moon HB31	3750	182	182	P 36x8	DP36x8	.....	Wau 6KU	6-4½x4¾	43.3	.....	FP	Wau	Chi	Str	G	A-L	A-L	B-L 51	D. B-L	U	4	Spi	Tim 65700D	W	F	6.38	4.13	A	Tim 1560	Ros	198	125½	8000
Le Moon H3V	5650	211	220	S 36x5	DS36x5	.....	Wau 6KU	6-4½x4¾	43.3	.....	FP	Wau	Chi	Str	G	A-L	A-L	B-L 51	D. B-L	U	4	Spi	Tim 65700SP	W	F	8.5	45.4	A‡	Tim 15302	Ros	151⅞	95½	7500
Maccar 64	.....	177	220	S 36x5	S 36x5	.....	Bud YBUI	4-4½x5¼	32.4	L	PC	Pie	Own	Zen	V	D-R	D-R	B-L 55	D. B-L	A	4	Spi	Tim 65700D	W	F	8.5	45.4	A‡	Tim 15302	Ros	151⅞	95½	7500
Maccar 66	.....	177	220	S 36x5	DS36x5	.....	Bud BA	6-4½x5¼	40.8	L	PC	Pie	Own	Zen	V	D-R	D-R	B-L 55	D. B-L	A	4	Spi	Tim 65702D	C	F	#8.87	43.0*	B*	Own AB	Own	.....	.....	.....
Mack AB	3500	146½°	.....	S 36x4	DS36x4	.....	Own AB	4-4½x5	28.9	L	PS	Own	Own	Str	G	Bos-R	N-E‡	D. Own	Own AB	A	4	Spi	Own AB	R	F	#9.25	44.9*	B*	Own AB	Own	.....	.....	.....
Mack AB	3950	164½°	.....	S 36x4	DS36x4	.....	Own BK	4-4½x5½	28.9	L	PS	Non	Own	Str	V	N-E	N-E	P. Own	Own AL	A	4	Cle	Own AL	R	F	#9.25	22.4*	G*	Own AK	Own	.....	.....	.....
Mack BJ	5900	168½°	192	S 36x8	DP36x8	.....	Her	6-4½x5½	48.9	L	PS	Non	Own	Str	V	A-L	A-L	D. J-L	B-L	U	4	Cle	Tim	W	F	.....	.....	I†	Tim	Ros	116	.....	5400
Master-Eagle 6-20	.....	142	.....	P 32x6	DP32x6	.....	Her	6-3¾x4½	33.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

| | | |

Key of abbreviations page 78

Trade Name and Model	General					Engine									Electrical System		Clutch	Gearset			Universals (Make)	Rear Axle			Gear Ratios		Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase		Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size		Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Make)	Fuel System		Ignition System (Make)	Generator and Starter (Make)	Type and Make	Make and Model	Location	No. of Forward Speeds		Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low				Cab to rear of frame	Cab to rear axle	
				Front (inches)	Rear (inches)								Carburetor (Make)	Fuel Feed																		
3½ Ton—Cont'd																																
Mack AC	4950	168°	.....	S 36x5	DS40x5	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AC	J	4	Spi	Own AC	C	D	*7.54	48.4*	D*	Own AC	Own	.....	.....	.....
Mack AK	5250	174°	.....	S 36x5	DS36x5	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AK	A	4	Spi	Own AK	R	F	*6.91	45.3*	G‡	Own AK	Own	.....	.....	.....
Mack AK	5150	174°	.....	S 36x5	DS36x5	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AK	J	4	Spi	Own AK	C	D	Opt	Opt	F‡	Own AK	Own	.....	.....	.....
Moreland E6	3600	182	.....	P34x7	DP34x7	Her WXC	6-4x4½	38.4	L	PC	Non	Lon	Zen	O	A-L	A-L	D. B-L	B-L 51	U	4	Cle	Tim 65000H	W	F	6.5	34.8	G‡	Tim 15733H	Ros	156	99	6000
Oneida D-9	.....	170	.....	P 38x7	DP38x7	Wau DU	4-4½x6¼	32.4	L	PS	Non	Mod	Str	...	Apo	A-L	B-L	B-L 60	A	4	Pet	Tim 6660	W	F	8.75	.....	A	Con 1803	Ros	.....	.....	7885
Oshkosh S	3950	159	.....	S 36x8	S 36x12	Her G	4-4¾x5¾	36.1	L	PC	Her	Own	Str	V	Bos-R	.....	D. B-L	B-L	A	7	Blo	Wis 1517K	R	F	10.08	95.7	A	Shu 615	Han	109¼	79¼	8400
Oshkosh S6	4275	159	.....	S 36x8	S 36x12	Her YXC	6-4¾x4¾	45.9	L	PC	Her	Own	Str	V	Bos-R	.....	D. B-L	B-L	A	7	Blo	Wis 1517K	R	F	10.08	95.7	A	Shu 615	Han	109¼	79¼	8500
Oshkosh HX	5075	146	165	S 36x8	S 36x12	Her YXC	6-4¾x4¾	45.9	L	PC	Her	Own	Str	V	Bos-R	.....	D. B-L	B-L	A	7	Blo	Own HX	R	F	8.94	84.9	B	Own HX	Han	114½	83½	8600
Pierce-Arrow HB	4500	156°	198	S 36x5	DS36x6	Own	4-4x5½	25.5	T	FP	Own	G&O	Str	P	D-R	D-R	D. Own	B-L 55	A	7	Spi	Own	W	F	7.8	.....	B	Tim	Own	131 1/16	76 11/16	7800
Relay 70C	5250	175	.....	P 36x6	S 40x12	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	P. B&B	Cov SHO	A	8	Blo	Own 74	R	F	9.95	84.18	A	Tim 16302	Ros	144	94½	8600
Republic L-1	.....	180°	.....	P 36x8	DP36x8	Lyc TS	6-3⅞x5	36.2	L	PC	Non	Own	Zen	V	A-L	A-L	D. Ful	Ful	U	4	U-M	Eat	R	F	7.5	48.75	J*	Eat	Han	165	101½	6900
Republic M-1	.....	171°	.....	P 36x8	DP36x8	Wau 6KS	6-4x4¾	38.4	L	PC	Wau	Own	Zen	V	A-L	A-L	D. B-L	B-L	U	5	U-M	Eat	R	F	8.85	53.00	J*	Shu	Han	139	89½	6900
Republic S25W	.....	165°	.....	S 36x5	S 36x12	Wau CU	4-4¾x5¾	30.6	L	PC	Wau	Own	Zen	V	Bos-A	A-L	D. Ful	Ful	U	4	U-M	Eat	R	F	8.85	42.48	B*	Eat	Jac	144¾	89	6100
Schacht 65	.....	160	198	S 36x5	S 36x12	Wau KU	6-4¼x4¾	43.3	L	PC	Pie	Own	Zen	G	Bos-A	.....	D. B-L	B-L 60	A	7	Spi	Own	R	F	10.3	65.0	A‡	Own	Own	152	95 1/16	7500
Selden Roadmast. 47CB	.....	151	184	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	FP	Non	Own	Str	V	D-R	D-R	D. B-L	B-L	U	4	Blo	Tim 58000	S	F	7.8	.....	G	Tim 15733H	Ros	132	84	6700
Service 70Z	5250	175	.....	S 36x6	S 36x12	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8200
Standard 3½-5 K	.....	160°	172	S 36x5	S 36x12	Con L4	4-4½x5½	32.4	L	FP	Sim	Lon	Str	V	Eis	Bos A*	D. B-L	B-L 55	A	7	Spi	Tim 66700SP	W	F	6.80	83.1	A*	Tim 16300	Ros	144	93¾	7465
Standard 3½-5KS	.....	160°	172	S 36x5	S 36x12	Con L4	4-4½x5½	32.4	L	FP	Sim	Lon	Str	V	Eis	Bos A‡	D. B-L	B-L 60	A	7	Spi	Tim 66700SP	W	F	6.80	83.1	A*	Tim 16300	Ros	144	93¾	7519
Sterling DW15-64XK	.....	163	177	S 36x4	S 36x8	Wau 6XK	6-3¾x4½	33.7	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 51	U	4	Har	Tim 65000H	W	F	8.5	45.47	G	Tim 15733H	Ros	149¾	85¾	5775
Stewart 19X	3690	165	235	S 36x5	S 36x10	Lyc TS	6-3⅞x5	36.2	L	PS	Han	Mod	Str	V	D-R	D-R	D. Ful	Ful	U	12	Spi	Tim	W	F	7.25	127.0	E*	Sal	Ros	136¼	79½	6990
Studebaker 99	3485	184	.....	B7.50x20	B7.50x20	Own	8-3½x4⅜	39.2	L	PC	Non	Lon	Str	O	D-R	D-R	D. Lon	Ful	U	4	Spi	Eat	S	½	5.11	24.6	G*	Eat	Ros	144⅝	92⅝	5400
United 70	.....	158⅞	.....	S 36x5	S 36x5	Her L	4-4½x5¾	32.4	L	PC	Pie	Per	Str	G	Eis	A-L	D. B-L	B-L 55	A	4	Blo	Wis 1400	R	F	9.12	48.7	A*	Shu 5550	Ros	131⅝	85½	6200
United 70C6	.....	158⅞	.....	S 36x5	S 36x5	Con 8T	6-4½x5¼	40.8	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L	B-L 55	A	4	Blo	Wis 1400	R	F	9.12	48.7	A*	Shu 5550	Ros	130¼	84⅛	6400
Victor 75	3895	162	.....	P 34x7	DP34x7	Her WXC	6-4x4½	38.4	L	PC	Non	Lon	Zen	V	D-R	D-R	D. Ful	Ful MGU	U	4	U-M	Wis 891	D	R	7.85	55.1	G†	Shu 5550	Ros	.....	.....	6200
Walter FK	6100	Opt	118	P 40x8	P 40x8	Own 6	6-4¼x4¾	43.4	L	PC	Own	Own	Str	V	Eis	D-R	. Own	Own	U	5	Own	Own	R	D	8.50	85.0	E*	Own	Ros	108	78	7500
†Ward La France 4B	.....	Opt	Opt	S 36x5	DS36x6	Wau DU	4-4½x6¼	32.4	L	PC	Wau	Own	Str	G	Bos R	A-L	D-BL	BL-55	A	4	Spi	Tim 65706D	W	F	9.3	49.8	B‡	Shu 5550	Ros	Opt	Opt	8100
†Ward La France 4E-6	.....	Opt	Opt	P 38x7	DP38x7	Wa KU	6-4¼x4¾	43.3	L	PC	Wau	Own	Str	V	Bos R	A-L	D-BL	BL-55	A	7	Spi	Tim 65706D	W	F	9.3	88.6	B‡	Shu 5550	Ros	Opt	Opt	8300
†Ward La France 35R	.....	Opt	Opt	P 36x8	DP36x8	Wau KU	6-4¼x4¾	43.3	L	PC	Wau	Own	Str	V	L-N	L-N	D-BL	BL-55	A	4	Spi	Tim 65706H	W	F	7.25	38.8	G†	‡ Tim 15733H	Ros	Opt	Opt	8500
White 55	4650	174°	215	S 36x5‡	DS40x5	Own GRB	4-4¼x5¾	28.9	L	FP	Own	Own	Zen	V	.....	L-N‡	P. Own	Own 4B	U	4	Spi	Own	R	F	10.1	66.1	B*	Own	Own	167⅜	107⅛	8402
Witt-Will L	.....	156°	192	S 36x5	S 36x12	Con L4	4-4½x5½	32.4	L	FP	Pie	Own	Zen	V	Eis	D-R	D. B-L	B-L 55	A	4	Spi	Tim 65700D	W	F	Opt	.....	A*	Tim 15300	Ros	139	85	7750
*Witt-Will R35	.....	Opt	.....	P 38x9	DP38x9	Con 20R	6-4½x4¾	40.8	H	PC	.....	Per	Zen	V	D-R	D-R	D. B-L	B-L 51	U	5	Spi	Tim 66702	W	F	9.1	40.53	G†	Tim 16733	Ros	.....	.....	7000
Woods 61	4250	146°	.....	P 34x7	DP34x7	Her G	4-4¾x5¾	36.1	L	PC	Pie	Chi	Zen	V	Eis	A-L	D. B-L	B-L	A	7	Blo	Tim	W	F	*7.75	74.62	A	Tim	.....	Ros	.....	6700
4 Ton																																
*Acorn 70	4250	162	.....	S 36x6	S 40x12	Bud YBU-1	4-4½x6	32.4	L	PC	McC	Chi	Str	G	Bos-R	.....	D. Ful	B-L 60	U	8	Pet	Tim 66600	W	F	Opt	Opt	A	Tim 1632	Ros	.....	.....	8500
American La France W	.....	Opt	201¾	S 36x5	S 36x10	Own 2R	4-4¼x6	28.9	L	PS	Own	Bus	Zen	V	Bos-A	Bos A‡	D. Own	Own 2R	A	4	Own	Own 2R	R	F	7.57	40.6	B*	Own 2R	.....	132	81 1/16	6600
Armleder 70-6	.....	156	186	S 36x6	S 36x12	Bud BUS	6-4x5½	38.4	L	PC	Non	Lon	Zen	V	A-L	A-L	D. B-L	B-L 55	U	4	Spi	Tim	W	F	10.3	55.3	B*	Tim	Ros	138	87¾	7600
Armleder 70	.....	156°	186	S 36x6	S 36x12	Bud YBU-1	4-4½x6	32.4	L	PC	Han	Lon	Zen	V	A-L	A-L	D. B-L	B-L 55	U	4	Spi	Tim	W	F	10.3	55.3	B*	Tim	Ros	138	87¾	7500
Atterbury 22D	.....	174°	198	S 36x5	DS36x6	Con L4	4-4½x5½	32.4	L	FP	Pie	Fed	Zen	V	Bos-A	A-L	D. B-L	B-L 55 Max	A	7	Spi	Tim	W	F	10.3	83.1	A*	Tim	Gem	142¾	93¼	8000
Atterbury 29C6	.....	186	220	P 36x8	DP36x8	Con 20R	6-4½x4¾	40.8	H	PC	Han	You	Zen	V	D-R	A-L	D. B-L	B-L	U	4	Spi	Tim 65706D	W	F	7.25	38.79	B	Tim 15302	Gem	169½	103½	7970
Brockway R	.....	164°	191¼	S 36x5‡	S 36x12‡	Con L4	4-4½x5½	32.4	L	FP	K.P.	Bus	Zen	V	Eis	L-N‡	D. B-L	B-L 55	A	4	Spi	Tim 66700S	W	F	8.75	46.8	B‡	Tim 16300	Ros	177¼	102¾	7890
Brockway RT	.....	175⅝°	200¼	S 36x5‡	S 36x12‡	Con B7	4-5x6	40.0	L	FP	K.P.	Bus	Zen	V	Eis	L-N‡	D. B-L	B-L 60	A	4	Spi	Tim 66700S	W	F	7.80	41.6	B‡	Tim 16300	Ros	176	104⅝	8100
Chicago 40C	.....	Opt	Opt	S 36x6	S 36x12	Wau EU	4-5x6¼	40.0	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 70 Max	A	7	Spi	Tim 66702D H	W	F	10.33	97.1	B‡	Tim 16302	Ros	Opt	Opt	10175
Clinton 90	.....	190	Opt	S 36x5	DS36x6	Bud YTU	4-4½x6	32.4	L	PC	Bud	Own	Zen	V	Spl	D-R	D. B-L	B-L 55	A	4	Blo	Tim 66600	W	F	8.75	46.8	A*	Tim 16302	Ros	Opt	Opt	8000
Clinton 90M	.....	190	Opt	S 36x5	DS36x6	Bud YTU	4-4½x6	32.4	L	PC	Bud	Own	Zen	V	Spl	D-R	D. B-L	B-L 55 Max	A	7	Blo	Tim 66600	W	F	8.75	83.1	A*	Tim 16302	Ros	Opt	Opt	8050
Commerce 80Z	5330	175	.....	S 36x6	S 36x14	Bud BA6	6-4½x5½	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60 Max	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8400
Corbitt 86	.....	178	230	P 36x8	DP36x8	Con 20R	6-4½x4¾	40.8	H	FP	Non	Per	Zen	V	D-R	D-R	D. B-L	B-L 55	A	7	Spi	Tim 66706D	W	F	Opt	Opt	A‡	Tim 16300	Ros	Opt	Opt	8140
Corbitt 84	.....	178	230	S 36x5	S 36x10	Con L4	4-4½x5½	32.4	L	FP	Sim	Per	Zen	V	D-R	D-R‡	D. B-L	B-L 55	A	7	Spi	Tim 66706D	W	F	Opt	Opt	A‡	Tim 16300	Ros	164	108	8140
Day-Elder KF	.....	170	196	S 36x5	S 36x12	Con 21R	6-4⅜x4¾	45.9	L	FP	Con	Bus	Zen	V	D-R	D-R	D. B-L	B-L 60	A	4	Spi	Tim 66702D	W	F	10.33	55.26	A	Tim 16302	Ros	140⅜	80⅜	8500
Denby 27	.....	170	.....	S 36x5	S 36x12	Con L4	4-4½x5½	32.4	L	PC	Han	Lon	Zen	G	Eis	.....	D. Ful	Ful	A	4	U-P	Cla	I	D	10.00	49.9	.....	Tim	Ros	.....	.....	7020
Diamond T800 6-wheel	.....	185°	215⅜	P 36x8	P 36x8	Her YXC	6-4¾x4¾	45.9	L	PC	Han	G&O	Zen	G	A-L	A-L	D. Cov	B-L	A	7	Spi	Tim	W	..	6.25	59.4	3‡‡	Tim	Ros	.....	.....	8290
Eagle 6-30	.....	160	.....	P 34x7	P 34x7	Her WXC	6-4x4½	38.4	L	PC	Opt	Per	Zen	V	A-L	A-L	D. B-L	B-L 55	U	4	Pet	Tim 65000H	U	F	.....	.....	G	Tim 15733H	Ros	.....	.....	7000
Fageol 445	5650	183½°	216½	P 36x6	DP36x6	Wau DU	4-4½x6¼	32.4	L	PC	Wau	Per	Zen	V	D-R	D-R	D. B-L	B-L 55 & 60	U&A	7	Spi	Tim 66700	W	F	6.92	124.37	B‡	Tim16000	Ros	168	101⅞	9300
Fageol 485	6400	184¼°	217¼	P 36x6	DP36x6	Wau A-B	6-4½x5¾	48.6	L	PC	Wau	Per	Zen	V	D-R	D-R	D. B-L	B-L 55 & 60	U&A	7	Spi	Tim 66700	W	F	6.92	124.37	B‡	Tim16000	Ros	168	95¾	9800
Fageol 470	5750	183½	216½	P 36x6	DP 36x6	Wau SRL	4-4¾x5⅛	45.94	L	PC	Wau	Per	Zen	V	D-R	D-R	D. B-L	B-L 55 & 60	U&A	7	Spi	Tim 66700	W	F	6.92	124.37	B‡	Tim16000	Ros	168	101⅞	9525
*Federal 4C6-A	.....	192	231	P 36x8	DP36x8	Con 20R	6-4½x4¾	40.8	H	PC	Con	Lon	Zen	V	D-R	D-R	P. B&B	B-L 55	A	7	Pet	Tim 66704HP	W	F	7.8	74.10	6†	Own	Ros	180	106¾	7850
Garford 80Z	5330	175	.....	S 36x6	S 36x14	Bud BA6	6-4½x5⅛	40.8	L	PC	Non	Own	Zen	V	A-L	A-L	Own	B-L 60 Max	A	7	Blo	Tim 66700DP	W	F	10.33	98.2	B	Tim 16302	Ros	144	94½	8400
Gen. Mot. T60-5002	3160	140°	200	P 36x8	DP36x8	Buick	6-3⅝x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	U	4	Spi	Tim 65706-N	W	F	7.25	44.81	G*	Eat 526-F	Jac	100	59	6208
Gotfredson W84A	.....	160	180	S 36x6	DS40x7	Bud YBU1	4-4½x6	32.4	L	PC	Pie	McC	Zen	V	Bos-R	D-R	D. B-L	B-L 60 Max	A	7	Spi	Tim 66700SP	W	F	10.33	98.13	B	Tim 16302	Ros	.....	.....	8400
Gramm GY-210	4345	210°	210	P 34x7	DP34x7	Con 21R	6-4⅜x4¾	45.9	I	PC	Non	Per	Zen	O	A-L	A-L	D. Ful	Ful MGU-14	U	4	Blo	Wis 6647	R	F	4.3	27.95	B*‡	Eat 423	Ros	176 1/16	119 1/16	7200
Gramm 45	3995	153°	200	S 36x5‡	S 36x12‡	Lyc TS	6-3⅞x5	36.2	L	FP	Han	Own	Zen	V	A-L	A-L	D. Ful	Ful H	A	8	Blo	Wis 1450	R	F	7.08	79.0	B*	Wis 30	Ros	138	83¾	7600
*Gramm 48 low bed	3995	156°	200	S 36x5‡	S 36x12‡	Lyc TS	6-3⅞x5	36.2	L	FP	Han	Own	Zen	V	A-L	A-L	D. Ful	Ful MGU	U	4	Blo	Wis 1250	R	F	7.12	34.2	B*	Shu 5550B	Ros	138	83¾	7600
Gramm-Bernstein 40	.....	156°	176	S 36x5	DS36x5	Con L4	4-4½x5½	32.4	L	PC	Pie	Own	Str	G	Eis	A-L	D. Ful	Ful H1	A	8	Own	Wis	W	F	9.00	96.3	B*	Shu 610	Ros	144	87¾	8360
Guilder J	4650	Opt	.....	S 36x5	DS36x6	Bud YTU	4-4½x6	32.4	L	PC	Pie	G&O	Zen	V	Eis	Non	D. B-L	B-L 55	A	4	Spi	Wis 1251K	R	F	7.50	54.0	A*	Shu 610	Ros	.....	.....	7500
Guilder J-6	4250	172	184	P 36x8	DP36x8	Her WXC	6-4x4½	38.4	L	PC	Mon	G&O	Zen	V	D-R	D-R	D. B-L	B-L 51	U	4	Spi	Tim 65706	W	F	Opt	Opt	B	Shu 5550	Ros	.....	.....	6600
Hahn 47HD	.....	151	.....	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	FP	Non	Chi	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Blo	Wis. 8817	R	F	.....	.....	I	Tim 57334H	Ros	110	.....	7500
Hahn 47HDL	.....	164	184	P 34x7	DP34x7	Con 18R	6-4x4½	38.4	H	FP	Non	Chi	Zen	V	A-L	A-L	D. B-L	B-L 35	U	4	Blo	Wis 8817	R	F	.....	.....	I	Tim 15733H	Ros	168	.....	7700

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Trade Name and Model	General					Engine								Electrical System		Clutch	Gearset			Rear Axle			Gear Ratio		Brakes, Location	Front Axle Make and Model	Steering Gear (Make)	Standard Wheelbase		Chassis Weight (lbs.) (stripped)
	Chassis Price	Standard Wheelbase (inches)	Maximum Wheelbase furnished	Tire Size: Front (inches)	Tire Size: Rear (inches)	Make and Model	Number of Cylinders Bore and Stroke	N.A.C.C. Rated H.P.	Valve Arrangement	Oiling System	Governor (Make)	Radiator (Maker)	Fuel System: Carburetor (Make)	Fuel System: Fuel Feed	Ignition System (Make)	Generator and Starter (Make)	Type and Make	Make and Model	Location	No. of Forward Speeds	Universal (Make)	Make and Model	Final Drive	Type	Total Reduction in High	Total Reduction in Low				Cab to rear of frame	Cab to rear axle	
5 Ton—Cont'd																															
Mack AK	5250	174°	.....	S 36x5	DS36x5	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AK	A	4	Spi	Own AK	R	F	*6.91	45.3*	G‡	Own AK	Own	.....	.....	.....
Mack AK	5250	174°	.....	S 36x5	DS36x5	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AK	J	4	Spi	Own AK	C	D	.....	.....	F‡	Own AK	Own	.....	.....	.....
Master-Eagle 6-40	.....	158	.....	P 36x8	DP36x8	Her	6-4½x4¾	45.9	.....	.....	.....	.....	.....	.....	A-L	A-L	D. B-L	B-L	A	7	Cle	Tim	W	F	.....	.....	I‡	Tim	Ros	144	.....	7100
Moreland EX6	3750	182	.....	S 36x4	S 36x8	Her WXC	6-4x4½	38.4	L	PC	Non	Lon	Zen	O	A-L	A-L	D. B-L	B-L 51	U	5	Cle	Tim 65704S	W	F	7.75	46.0	G‡	Tim 16710H	Ros	156	99	6500
Oneida E-9	.....	180	.....	S 36x8	DS40x7	Wau GU	4-5½x6¼	46.2	L	PS	Non	Mod	Str	P	Apo	A-L	B-L	B-L 60	A	4	Pet	Tim 67660	W	F	10.1	.....	A	Tim 1730	Ros	.....	.....	9400
Oshkosh FHX	5475	146	165	S 36x8	S 36x12	Her YXC2	6-4½x4¾	48.6	L	PC	Her	Own	Str	V	Bos-R	.....	D. B-L	B-L	A	7	Blo	Own FH	R	F	9.6	91.2	B	Own FH	Han	114½	83½	9200
Pierce-Arrow RD	5400	162	198	S 36x6	DS36x7	Own RD	4-4½x6¾	32.4	T	FP	Own	Own	Str	P	D-R	D-R	D. Own	Own RD	A	4	Spi	Own RD	W	F	7.8	40.4	B*	Own RD	Own	139¼	78¾	8750
Rehberger D	.....	186	198	S 36x6	S 40x14	Bud BTU	4-5x6½	40.0	L	PC	K-P	Bus	Zen	V	Eis	D-R	D. B-L	B-L 60	A	4	Spi	Tim 6760	W	F	10.25	54.8	A*	Tim 17300	Ros	172½	109	10010
Republic 35	.....	170°	.....	S 36x6	S 36x14	Wau DU	4-4½x6¼	32.4	L	PC	Wau	Own	Zen	V	Bos-A	A-L	D. Ful	Ful	A	8	U-M	Eat	I	D	7.67	95.5	E*	Shu	Han	145¾	92	7500
Schacht Series 70	.....	168	.....	S 36x6	DS40x7	Wau SRL	6-4⅝x5½	45.9	L	PC	Han	Own	Zen	G	Bos-A	Non	D. B-L	B-L 70	A	7	Spi	Own	W	F	14.0	88.2	A‡	Own	Ros	.....	.....	10000
Selden 67C	.....	164	184	P 36x8	DP36x8	Con 21R	6-4⅜x4¾	45.9	H	FP	Non	Own	Str	V	D-R	D-R	D. B-L	B-L	A	7	Blo	Wis 1500	R	F	10.8	.....	G	Tim 16710H	Ros	132	84	9600
Selden 77	.....	170	220	P 36x8	DS36x6	Bud GF6	6-4¾x6	54.15	L	FP	Non	Own	Str	V	D-R	D-R	D. B-L	B-L 60	A	7	Blo	Wis	W	F	.....	.....	A‡	Shu	Ros	216	139	10000
Sterling EW 23-64 KS	.....	174	192	S 36x5	S 40x10	Wau 6KS	6-4x4¾	38.4	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 60	A	4	Har	Tim 66601D	W	F	9.5	50.82	A	Tim 16300	Han	158	97	7950
Sterling DC 23-64 KS	.....	166	180	S 36x5	S 36x12	Wau 6KS	6-4x4¾	38.4	L	FP	Wau	Hex	Zen	V	.....	L-N	D. B-L	B-L 55	U	4	Har	Own	C	D	.....	49.12	D	Tim 15300	Ros	147.0	86.0	7100
†Stewart 27X-5-7	5700	165	235	P 36x7	P 40x7	Wau	6-4⅝x5½	45.9	L	FP	Wau	Own	Str	V	D-R	D-R	D. Ful	Ful	A	8	Spi	Tim	W	F	6.56	93.8	G	Eaton	Ros	136½	76⅜	9700
United 100	.....	150½	170½	S 36x6	S 40x14	Her G	4-4¾x5¾	36.1	L	PC	Pie	Per	Zen	G	Eis	A-L	D. B-L	B-L 60	A	4	Blo	Wis 1800	R	F	11.2	106.4	A*	Shu 610	Ros	143⅛	81	8900
Walter FH	7600	Opt	136	P 40x8	DP40x8	Own 6	6-4½x5¾	48.6	L	PC	Own	Own	Zen	V	Eis	D-R	Own	Own	U	5	Own	Own	R	D	8.50	85.0	E*	Own	Ros	126	96	9000
†Ward La France 5D	.....	Opt	Opt	S 36x6	DS40x7	Wau EU	4-5x6¼	40.0	L	PC	Wau	Own	Str	G	Bos R	A-L	D-BL	B-L 60	A	7	Spi	Tim 66702D	W	F	10.3	97.8	B‡	Tim 16302	Ros	Opt	Opt	9900
†Ward La France 5B6	.....	Opt	Opt	S 36x6	DS40x7	Wau AB	6-4½x5¾	48.6	L	PC	Wau	Own	Str	G	L-N	L-N	D-BL	B-L 60	A	7	Spi	Tim 66702D	W	F	10.3	97.8	B‡	Tim 16302	Ros	Opt	Opt	10200
Whitcomb 6-wheeler	.....	Opt	Opt	P 38x9	Wis Z	6-4½x5	48.6	I	FP	Non	Mod	Str	O	U	L-N	L-N	D. Ful	Ful	U	4	Own	Own	W	F	Opt	Opt	G	Own	Ros	.....	.....	.....
White 52	5100	174*	245	S 36x6	S 40x12	Own GRB	4-4¾x5¾	28.9	L	FP	Own	Own	Zen	V	.....	L-N‡	P. Own	Own GRBA	U	5	Spi	Own	R	F	11.7	92.3	B*	Own	Own	166⅛	105⅝	9184
White 55	4765	174*	215	S 36x6‡	DS40x6	Own GRB	4-4¼x5¾	28.9	L	FP	Own	Own	Zen	V	.....	L-N‡	P. Own	Own 4B	U	4	Spi	Own	R	F	10.11	66.1	B*	Own	Own	167⅝	107⅛	8895
Witt-Will AA	.....	172*	192	S 36x6	DS40x7	Con B5	4-4¾x6	36.1	L	FP	Non	Own	Zen	G	Eis	D-R	D. B-L	B-L 60	A	7	Spi	Tim 67600	W	F	10.2	53.3	A*	Tim 1732B	Ros	139	89	9350
5½ Ton and Over																															
Acme 150	.....	192	.....	S 36x7	DS40x8	Con B7	4-5x6	40.0	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L	B-L 60	A	7	Blo	Tim 68700DP	W	F	10.0	95.0	B	Tim 17300	Ros	168⅝	105⅞	9650
Acme 151	.....	193	.....	S 36x7	DS40x8	Con 15H	6-4½x5¾	48.6	L	PC	Pie	Per	Str	V	Eis	A-L	D. B-L.	B-L 60	A	7	Blo	Tim 68700DP	W	F	10.0	95.0	B	Tim 17300	Ros	167¾	104	10000
Amer. La France Z6½	5750	Opt	Opt	S 36x7	DS40x7	Own 5R	4-4¾x6	36.1	L	PS	Own	Bus	Zen	V	Bos-A	Bos A‡	D. Own	Own 5R	A	4	Own	Own 5R	W	F	10.0	54.4	B*	Own 5R	.....	Opt	Opt	9600
Amer. La France U7½	6000	Opt	Opt	S 36x7	DS40x8	Own 5R	4-4¾x6	36.1	L	PS	Own	Bus	Zen	V	Bos-A	Bos A‡	D. Own	Own 5R	A	4	Own	Own 5R	W	F	11.67	63.5	B*	Own 5R	.....	Opt	Opt	9800
Brockway BT	.....	156¼*	207⅝	S 36x6	DS40x8	Bud BBU	4-5x6½	40.0	L	PC	K.P.	Bus	Zen	V	Eis	L-N‡	D. B-L	B-L 70	A	7	Spi	Tim 68700S	W	F	10.0	95.0	B‡	Tim 17300	Ros	146	84¾	11060
Chicago 70C	.....	Opt	Opt.	S 36x6	S 40x14	Wau EU	4-5x6¼	40.0	L	FP	Wau	Chi	Zen	G	Apo	A-L‡	D. B-L	B-L 70 Max	A	7	Spi	Tim 68700DH	W	F	11.66	109.6	B‡	Tim 17302	Ros	Opt	Opt	10175
Chicago 36D	.....	173*	Opt	P 34x7	P 36x8	Wau KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Zen	G	A-L	A-L	D. B-L	B-L 55 Max	A	7	Spi	63795H-6H	W	F	11.6	61.7	B‡	Tim 16300	Ros	Opt	Opt	8800
Chicago 64D	.....	168½*	Opt	S36x6	S 36x10	Wau EU	4-5x6¼	40.0	L	FP	Wau	Chi	Zen	G	A-L	A-L	D. B-L	B-L 70 Max	A	7	Spi	66797DH-8**DH**	W	F	17.1	108.2	B‡	Tim 17300	Ros	Opt	Opt	13000
Chicago 66D	.....	175¾*	Opt	S 36x6	S 36x12	Wau 6AB	6-4½x5¾	48.6	...	FP	Wau	Chi	Zen	G	A-L	A-L	D. B-L	B-L 70 Max	A	7	Spi	66797DH-8**DH**	W	F	17.1	108.2	B‡	Tim 17300	Ros	Opt	Opt	13000
Chicago 46D	.....	Opt	163	P 36x8	DP36x8	Wau KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Zen	G	A-L	A-L	D. B-L	B-L 70 Max	A	7	Spi	Tim65793-4**DH**	W	F	7.25	68.2	B‡	Tim 16302	Ros	.....	.....	12480
Chicago 56D	.....	Opt	175¼	P 36x8	DP36x8	Wau AB	6-4½x5¾	48.6	...	FP	Wau	Chi	Zen	G	A-L	A-L	D. B-L	B-L 70 Max	A	7	Spi	Tim65793-4**DH**	W	F	7.25	68.2	B‡	Tim 17300	Ros	.....	.....	12600
Clinton 120SM	.....	172	Opt	S 36x6	S 40x14	Bud BTU	4-5x6½	40.0	L	PC	Bud	Own	Zen	V	Spl	D-R	D. B-L	B-L 60	A	4	Blo	Tim 68702**DHP**	W	F	8.8	83.6	A*	Tim 17300	Ros	Opt	Opt	9500
Coleman F75	.....	144	184	P 42x9	DP 42x9	Bud GL	6-4½x6	48.6	L	FP	Bud	Per	Str	V	D-R	D-R	D. Ful	Ful HU16	U	8	Spi	Wis HD	R	F	8.54	175.0	E	Wis HD	Ros	168	105	11400
Coleman F75S	.....	144	184	P 42x9	DP 42x9	Bud GF	6-4¾x6	54.2	L	FP	Bud	Per	Str	V	D-R	D-R	D. Ful	Ful HU16	U	8	Spi	Wis HD	R	F	8.54	175.0	E	Wis HD	Ros	168	105	11500
*Diamond T-1600 6 whl	.....	174½	210	P 36x8	DP36x8	Her YXC3	6-4⅝x4¾	51.3	L	PC	Han	G&O	Zen	G	A-L	A-L	D. Cov	B-L 60 Max	A	7	Spi	Tim	W	F	9.33	88.6	6†‡	Tim	Ros	.....	.....	11700
Diamond T-2500 6 whl	.....	194*	214	S 36x7	S 36x12	Wau 6RB	6-5x5¾	60.0	L	PC	Wau	G&O	Zen	G	Bos-A	A-L	D. B-L	B-L 70	A	7	Spi	Tim	W	F	9.67	91.8	G°	Tim	Ros	.....	.....	13000
Fageol 10-66A	8850	229½	.....	P 36x6	DP36x6	Wau AB	6-4½x5¾	48.6	L	PC	Wau	Per	Zen	V	D-R	D-R	D. B-L	B-L 55&60	U&A	7	Spi	Tim 65700	W	F	6.87	123.4	B°	Tim 17300	Ros	213½	147¾	12870
Fageol 10-66-C	9100	231½*	.....	P 36x6	DP36x6	Wau AB	6-4½x5¾	48.6	L	PC	Wau	Per	Zen	V	D-R	D-R	D. B-L	B-L 55&60	U&A	7	Spi	Tim 66700	W	F	6.87	123.4	B°	Tim 17300	Ros	213½	149¾	13700
*Federal X8	.....	162	186	S 36x6	S 40x14	Con B7	4-5x6	40.0	L	FP	Pie	Own	Zen	V	Eis	D-R	P. B&B	B-L 60	A	7	Pet	Tim 68700DP	W	F	11.6	110.2	B‡	Own	Ros	151	87	9750
F.W.D. X6	6500	170	.....	P 36x8	P 36x8	Wau	6-4¼x4¾	43.3	L	PC	Wau	Per	Zen	V	Eis	Non	O. H-S	Own	A	5	Blo	Own X	B	F	8.9	88.6	B	Own M	Ros	180	137	9500
Freeman GL	.....	144*	.....	P 38x9	DP38x9	Bud GL6	6-4½x6	48.6	L	FP	Bud	Lon	Str	E	Bos-R	Bos-R	D. Ful	Ful HU16	U	8†	Cle	Own	I	F	8.53	155.4	E	Own	Woh	.....	.....	.....
†Gen. Mot. T60S-6101	3960	140¾*	200¾	P 38x7	DP38x9	Buick	6-3½x5	31.5	I	PC	Han	Lon	Mar	O	D-R	D-R	D.	Mun	U	4	Spi	Tim 66704N	W	F	10.33	63.84	G*	Eat 526F	Jac	100	59¾	6703
Gen. Mot. K102-6001	4250	160	184	S 36x6	S 40x14	Own 89	4-4½x6½	32.4	L	FP	K.P.	McC	Zen	V	Eis	D-R	D. Own	Mun	A	7	Own	Tim 67600	W	F	10.0	86.3	A‡	Tim 1732	Jac	144	87⅞	9245
Gotfredson W104A	.....	169	193	S 36x6	DS40x8	Bud BBU	4-5x6½	40.0	L	PC	Pie	Lon	Zen	V	Bos-R	D-R	D. B-L	B-L 60 Max	A	7	Spi	Tim 68700SP	W	F	11.66	110.77	B	Tim 17302	Ros	.....	.....	12000
Gotfredson W106A	.....	173	196⅛	S 36x6	DS40x8	Bud GL6	6-4½x6	48.6	L	PC	Pie	McC	Zen	V	Bos-R	D-R	D. B-L	B-L 60 Max	A	7	Spi	Tim 68700SP	W	F	10.0	95.0	B	Tim 17302	Ros	.....	.....	12400
Gramm 60	4745	153*	200	S 36x6	S 36x14	Her G	4-4¾x5¾	36.1	L	PC	Pie	Own	Zen	V	A-L	A-L	D. Ful	Ful H	A	8	Blo	Wis 1700	R	F	7.33	82.0	B*	Wis 30	Ros	138	83¾	8700
Gramm 60	4745	153*	200	S 36x6	S 36x14	Lyc TS	6-3⅞x5	36.2	L	FP	Han	Own	Zen	V	A-L	A-L	D. Ful	Ful H	A	8	Blo	Wis 1700	R	F	7.33	82.0	B*	Wis 30	Ros	138	83¾	8700
Gramm-Bernstein 50	.....	168*	188	S 36x6	DS40x6	Con B7	4-5x6	40.0	L	PC	Pie	Own	Str	G	Eis	A-L	D. Ful	Ful H1	A	8	Own	Wis 1010F	W	F	11.75	125.7	B	Shu 610	Ros	162	97	9700
Guilder L 6-7	5650	170	.....	S 36x6	S 40x14	Bud BTU	4-5x6½	40.0	L	PC	Pie	G&O	Zen	G	Eis	Non	D. B-L	B-L 60	A	4	M-E	Wis 1500	R	F	9.10	.....	A*	Shu 650	Ros	.....	.....	9600
Hendrickson SSW	6100	Opt	Opt	P 36x8	P 36x8	Bud BA6	6-4¼x5¼	40.8	L	FP	Bud	Chi	Zen	V	Spl	A-L	D. B-L	B-L 60	A	7	Blo	Own	W	F	8.25	78.38	G‡	Tim 16302	Ros	Opt	Opt	8450
Hendrickson MSW	6400	Opt	Opt	P 38x7	DP38x7	Bud BA6	6-4⅜x5⅜	40.8	L	FP	Bud	Chi	Zen	V	Spl	A-L	D. B-L	B-L 60	A	7	Blo	Own	W	F	Opt	.....	G‡	Tim 16302	Ros	Opt	Opt	10800
Hendrickson SW10	6900	Opt	Opt	S 36x7	S 40x12	Wau EU	4-5x6¼	40.0	L	FP	Wau	Chi	Zen	V	Spl	**Bos-R** †	D. B-L	B-L 70	A	7	Blo	Own	W	F	10.25	96.35	G‡	Tim 17300	Ros	Opt	Opt	11700
Hendrickson SW610	7300	Opt	Opt	S 36x7	S 40x12	Bud GL6	6-4½x6	48.6	L	FP	Bud	Chi	Zen	V	Spl	**Bos-R** †	D. B-L	B-L 70	A	7	Blo	Own	W	F	10.25	96.35	G‡	Tim 17300	Ros	Opt	Opt	13000
Indiana 641-7	.....	184*	208	S 36x6	S 40x12	Wis Z	6-4½x5	48.6	H	FP	K-P	Lon	Str	V	Eis	A-L‡	D. B-L	B-L 70 Max	A	7	Spi	Tim 68700SP	W	F	10.0	95.0	B*	Shu 610	Ros	156	98¼	10000
Kenworth 10 ton	5975	181	Opt	S 36x7	DS40x8	Wau GU	4-5¼x6¼	46.2	L	FP	Non	Per	Str	V	Bos-R	D-R	D. B-L	B-L 60 Max	A	7	Spi	Tim 68700	W	F	10.0	95.0	B*	Tim 17300	Ros	Opt.	Opt.	10000
Le Moon H60	6200	192	192	S 36x6	S 36x8	Wau 6KU	6-4¼x4¾	43.3	...	FP	Wau	Chi	Str	V	A-L	A-L	D. B-L	B-L 60	A	7	Spi	Wis 4600	W	F	8.25	78.37	G	Tim 16302	Ros	162	105	10000
Le Moon H100	7300	180	180	S 36x7	S 40x12	Wau 6AB	6-4½x5¾	48.6	...	FP	Wau	Chi	Str	V	L-N	L-N	D. B-L	B-L 70	A	7	Spi	Tim 66791	W	F	9.66	90.8	G	Tim 17302	Ros	130	93	13000
Maccar 126-6 Wheel-6	.....	180½	221½	P 36x8	Buda BA-6	6-4½x5½	41.0	L	PC	.....	.....	.....	Str	V	.....	.....	D.	B-L 60	A	7	.....	.....	W	F	6.4	78.4	G‡	.....	.....	.....	.....	9200
Mack AC7½	6000	168*	.....	S 36x7	DS40x7	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AC	J	4	Spi	Own AC	C	D	10.5*	67.1	D*	Own AC	Own	.....	.....	.....
Mack AP7½	9500	191	.....	S 36x7	DS40x8	Own AP	6-5x6	60.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AC	J	4	Spi	Own AC	C	D	.....	Opt	D‡	Own AC	Own	.....	.....	.....
Mack AC 6-wheel 10	7500	.....	.....	S 36x7	S 40x12	Own AC	4-5x6	40.0	L	PS	Own	Own	Str	G	Bos-R	N-E‡	P. Own	Own AC	J	4	Spi	Own AC	C	D	.....	Opt	D	Own AC	Own	.....	.....	.....

| | | |

KEY OF ABBREVIATIONS

For addresses of manufacturers listed below see Chilton Catalog and Directory

Wheelbase

•More than one wheelbase furnished.

Tires

B—Balloon.
P—Pneumatics standard equip.
DP—Dual pneumatics standard equipment.
S—Solids.
DS—Dual solids.
•—Tires at extra cost.
‡—Pneumatics can be furnished at extra cost.

Engine

•Models also furnished with engine under seat.
Bud—Buda Co.
Con—Continental M. Corp.
D—Head and Side.
FP—Full Pressure to all bearings including wrist pins.
H—Overhead.
HaS—American Car & Fdy. Co.
Her—Hercules Motor Corp.
I—In Head.
Jackson—Master M. T. Mfg. Co.
L—L-Head.
Lyc—Lycoming M. Corp.
PC—Pressure to all crankshaft and connecting-rod bearings.
PG—Pump, Gravity & Splash.
PS—Pressure with splash.
SP—Circulating splash.
T—T-Head.
Wau—Waukesha M. Co.
Wis—Wisconsin M. Mfg. Co.
Yell—Yellow Sleeve V. E. Wks.
X—Sleeve.

Governor

Dup—Elsemann Magneto Corp.
Han—Handy Gov. Co.
K. P.—Handy Gov. Co.
McC—E. R. Klemm.
Mon—Monarch Gov. Co.
Non—Not Supplied.
Pha—Bethlehem Fabricators, Inc.
Pie—Pierce Governor Co.
Sim—Elsemann Magneto Corp.
Wau—Waukesha M. Co.

Radiator

Bow—Bowerbank, E. R. Co.
Bus—Bush Mfg. Co.
Chi—Chicago Mfg. Co.
Fed—Fedders Mfg. Co.
G&O—G. & O. Mfg. Co.
Har—Harrison Rad. Corp.
Hex—Hexcel Rad. Co.
Lon—Long Mfg. Co.
McC—McCord Rad. & Mfg. Co.
McK—McKinnon Dash Co.
Mod—Modine Mfg. Co.
Per—Perfex Corp.
R-T—Rome-Turney Rad. Co.
U. S.—U. S. Cartridge Co.
You—Young Rad. Co.

Fuel System

B.B.—Penberthy Injector Co.
Car—Carter Carburetor Co.
E—Electric Pump.
G—Gravity.
Joh—Johnson
Mar—Marvel Carbureter Co.
O—Mechanical Pump.
P—Pressure.
Sch—Wheeler Schebler Car. Co.
Ste—Detroit Lubricator Co.
Str—Stromberg Motor Dev. Co.
Til—Tillotson Mfg. Co.
V—Vacuum.
Zen—Zenith-Detroit Corp.

Electrical Systems

‡—Generator & Starter at Extra Cost.
†—Starter not supplied, Generator at Extra Cost.
•—Starter at Extra Cost.
A-L—Electric Auto-Lite Corp.
Apo—Apollo Magneto Corp.
Bos-A—Am. Bosch Magneto Co.
Bos-R—Rob. Bosch Magneto Co.
Con.—Conn. Tel. & Elec. Co.
DJ—DeJon Elec. Corp.
D-R—Delco-Remy Co.
Dyn—Owen Dyneto Corp.
Els—Elsemann Magneto Corp.
Exl—Electric S. B. Co.
Gor—R. J. Gorman Co., Inc.
L-N—Leece-Neville Co.
N-E—North East Elect. Co.
Non—Not Supplied.
Pol—Prest-O-Lite Co.
Sci—Scintilla Magneto Co.
Spl—Splitdorf Electrical Co.
USL—USL Battery Corp.
Ves—Vesta Battery Corp.
Wil—Willard S. B. Co.

Clutch and Gearset

•—Other ratios optional.
†—Auxiliary two-speed transmission optional.
A—Amidships.
B & B—Borg & Beck Co.
B-L—Brown-Lipe Gear Co.
Cot—Cotta Trans. Corp.
Cov—Covert Gear Co.
Det—A. J. Detlaft Co.
D-G—Detroit Gear & Mach. Co.
D—Disk.
Ful—Fuller & Sons Mfg. Co.
H-S—Merchant & Evans Co.
J—Unit with Jackshaft.
K—Cone.
Lon—Long Mfg. Co.
M. M.—Mechanics Mach. Co.
Mun—Muncie Products Div. General Motors Corp.
O—Disk in Oil.
P—Plate.
Roc—Rockford Drill. Mach. Co.
U—Unit with Engine.
W-G—Warner Gear Co.
Yell—Yellow Sleeve V. E. Wks.

Universal

B.G.—Universal Machine Co.
Blo—Blood Bros. Mach. Co.
Cle—Cleveland St. Prod. Corp.
Har—Spicer Mfg. Co.
M-E—Merchant & Evans Co.
M. M.—Mechanics Machine Co.
Pet—Cleveland Univ. Parts Co.
Pic—Pick Mfg. Co.
Spi—Spicer Mfg. Co.
Sp-Bl—Spicer and Blood Bros.
The—Thermoid Rubber Co.
U-M—Universal Machine Co.
U-P—Universal Products Co.

Front and Rear Axles

•—Two speed
½—Semi-Floating.
¾—Three-Quarter Floating.
B—Straight Bevel.
Cla—Clark Equip. Co.
Col—Columbia Axle Co.
Con—Continental Axle Co.
C—Chain.
D—Dead.
Eat—Eaton Axle Co.
F—Floating.
I—Internal Gear.
R—Double Reduction.
S—Spiral Bevel.
Sal—Salisbury Axle Co.
She—Sheldon Axle & Spring Co.
Shu—Shuler Axle Co., Inc.
Tim—Timken Det. Axle Co.
Tor—Eaton Axle & Spring Co.
W—Worm.
Wis—Wisconsin Axle Co.

Brake

A—Rear Wheels only.
B—Driveshaft and Rear Wheels.
D—Jackshaft and Rear Wheels.
E—4-Wheel Brakes.
F—4-Wheel Brakes with emergency on jackshaft.
G—4-Wheel Brakes with emergency on driveshaft.
H—4-Wheel Brakes with emergency on rear wheels.
I—4-Wheel Brakes with emergency on propeller shaft.
J—Driveshaft.
K—Service & Emergency Brakes on four wheels.

Service Brake Type

•—Mechanical.
†—Hydraulic.
‡—Vacuum Booster.
°Compressed Air.

Steering Gear

CAS—Columbus G. & P. Co.
D-G—Detroit Gear & Mach. Co.
Dod—Dodge Bros. Co.
Gem—Gemmer Mfg. Co.
Han—Hannum Mfg. Co.
Jac—Saginaw Steering Gear, Div. General Motors Corp.
Lav—Hannum Mfg. Co.
Ros—Ross Gear & Tool Co.

Diamond T 8-Ton Has 6-Wheel Unit

(Continued from page 43)

Brown-Lipe, model 70, which gives seven speeds forward and two reverse. Low reduction is 9.5 to 1 and overdrive .78 to 1. Steering is by Ross cam lever gear.

Service brakes are four-shoe Timken internal duplex hydraulically operated on all four driving wheels. A B-K vacuum booster mounted in a trunnion behind the clutch amplifies foot pressure. The hand brake, the Tru-Stop made by the American Cable Co., is mounted behind the transmission and consists of two opposing shoes, operating against a 16-in. ventilated disk.

All springs are semi-elliptic but only the front are shackled and bracketed. The rear springs, since they only serve to cushion the load, have floating ends. Load is transmitted to the spring ends through steel bearing blocks attached to the side rails.

The frame is of heat-treated chrome nickel steel and consists of 9 in. channels and six cross-members, two of which are tubular. Heavy steel plates, ranging from 9 to 14 in. in width, are riveted to the side rails to give greater rigidity at points of heavy stress.

Standard equipment includes heavy front fenders, grooved floor boards, speedometer, electric head and tail lights, bumper, horn, thermostats, etc.

¾-Ton Dodge Comes in Six Bodies

(Continued from page 42)

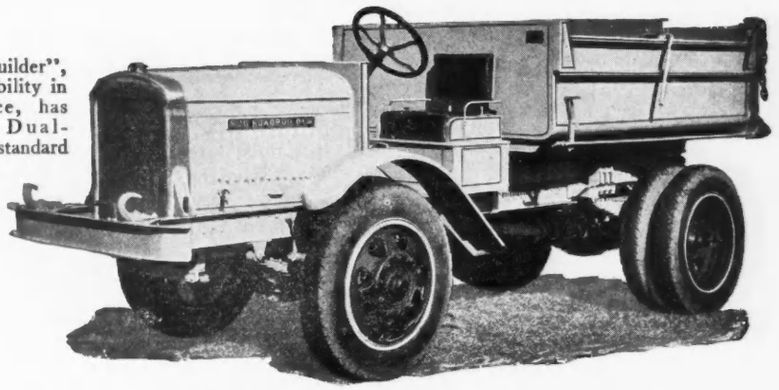
ston Oil-Vac. Standard equipment includes air cleaner, crankcase ventilator and thermostat. Radiator shell, lamp shell and exterior hardware are chromium plated.

Cabs are roomy and comfortable. Full vision windshield and slender steel corner posts are provided on all models. Leather upholstery over thickly padded cushions is used. On the illuminated instrument panel are speedometer, oil gage, ammeter, spark control, carburetor choke and lock ignition switch. Light control lever, gasoline throttle, and horn button are mounted on the steering wheel.

Walshweld Rack Body

(Continued from page 47)

Woolracks including signboard and hooks in two sizes are furnished at extra cost. These are constructed full width to the body and full lengths to the radiator with four braces or half length to front of cab with two braces. Other extras include floor strips, skid iron on rear, top sign on cab, boss, stringers, bow pockets and bow carriers, rope boxes in three sizes, cross chains inside of body, tailboard, rear rack sections and lettering.



Hug "Roadbuilder", known for ability in hard service, has Spoksteel Dual-Wheels as standard equipment.

Spoksteel DUAL-WHEELS

by Motor Wheel

Spoksteel Dual-Wheels are a further development of the forged one-piece spider that made the single Spoksteel the outstanding wheel of its class. Metal is *forged* into proper taper for greatest strength with lightness—Coolness is inherent—Accessibility is a feature—Cleaning is almost automatic—Accurately machined surfaces apply load directly to hub—Hub ring or flange provides a positive locking that insures permanent wheel alignment.

As a final measure of good engineering practice, builders are adding to their trucks and coaches the degree of safety, endurance and steady service that is provided only by Spoksteel Dual-Wheels.

MOTOR WHEEL CORPORATION, LANSING, MICHIGAN

FEDERAL OFFERS A REAL OPPORTUNITY

Federal's increased factory facilities make possible the taking on of additional distributors in various parts of the country.

As this program of expansion proceeds, we find that our new distributors fall into certain well-defined classes.

1—Truck distributors who see in Federal's 43 chassis and more than 100 body and chassis combinations, in the results of Federal engineering and manufacture, a line of trucks holding greater profit possibilities than the line which they have been handling.

2—Passenger car dealers who realize that they can increase their sales volume by selling trucks as well as passenger cars, and increase their profits by distributing their overhead over this greatly increased volume.

3—Firms or individuals who have been successful in other lines of business and who see in the Federal franchise a means of making profitable use of this accumulated business experience.

4—Truck salesmen who have decided to go into business for themselves and, knowing trucks and truck selling methods, appreciate the value of the Federal franchise.

Federal's records contain many instances of distributors coming to us from each of these four classes who have made outstanding financial successes by using their ability and energy in the distribution of Federal Trucks.

We shall be glad to discuss possible distribution locations with firms or individuals who are interested.

(291)

FEDERAL MOTOR TRUCK CO.

Leading Specialists in Commercial Transportation

5786 FEDERAL AVENUE : DETROIT

FEDERAL TRUCKS